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EDITED BY
GEORGE WOOD CLAPP, D.D.S.
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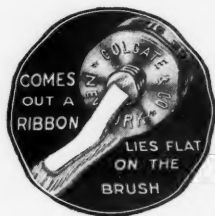
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THE DENTAL DIGEST

GEORGE WOOD CLAPP, D.D.S., Editor

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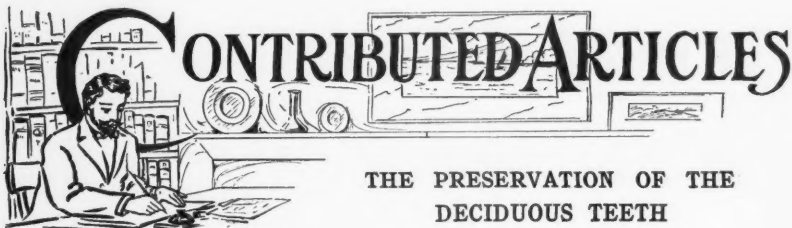
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Vol. XVI

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No. 1



THE PRESERVATION OF THE DECIDUOUS TEETH

By RAYMONDE ADAIR ALBRAY, D.D.S., NEWARK, N. J.

FIRST PRIZE ARTICLE *

In the treatment and filling of the deciduous teeth there are many factors which must be taken into consideration. Among the most important of these may be mentioned the age of the little patient, length of time the affected tooth or teeth should remain in the mouth, the structure of the teeth, character of the cavities and condition of the child's nervous system and general health.

Unfortunately for the children, a great many parents, either from carelessness or lack of knowledge regarding the purpose and value of the deciduous teeth, do not consider the examination and repair of

* Three prizes—\$50.00, \$25.00 and \$10.00—were offered for the best article on the care of children's teeth. This article was awarded first prize. The article winning second prize is published in this number. The article winning third prize will probably be published next month.

them at all necessary, postponing the visit to the dentist until after a sleepless night or two because of Willie's aching tooth. That these temporary teeth should be saved until the time for their natural loss is certain; for to a great extent (and this is little realized by most parents) the character and position of the permanent set and also the general physical condition and development of the growing child are dependent upon these first teeth.

How often we hear the remark, "Take it out, it is only a first tooth and don't amount to much." The dental profession is to a large extent responsible for that remark, too; so let us redeem ourselves by doing everything in our power toward the upbuilding of the health of the coming generations, for a child with decayed teeth cannot properly prepare food for digestion and assimilation, thus laying the foundation for future stomach troubles or derangements of the digestive tract. Then, too, what child with sore or aching teeth can study to the best advantage to itself? We as dental surgeons have a great field opening out before us and can do much in the way of so-called preventative dentistry by caring for the teeth of the children of to-day. Preach oral hygiene, teach oral hygiene and practise oral hygiene by cleansing the children's teeth and filling those which are in need of such treatment.

Beginning with the simple superficial cavities of decay and taking up each class in turn as the decay progresses, the treatment for each will be given according to the methods which have given the best results in the greatest proportion of cases treated. I would state, however, that just as one individual is different from every other, so do the teeth vary, and fillings, treatment of putrescent pulps or abscesses must be modified or otherwise adapted to the case in hand.

Simple cervical or approximal cavities in the central or lateral incisors usually involve quite a large surface, and owing to the small size of these teeth, and the fact that the pulps of the deciduous teeth are larger in proportion to the size of the tooth than those in the permanent set, a thorough cavity preparation for a filling is generally out of the question; but where it can be accomplished an oxyphosphate of zinc cement filling is indicated. In those cases where this cannot be done or where the tooth is soon to be lost, the removal of the decay with spoon excavators and the thorough cauterization of all of the cavity surfaces with a saturated solution of nitrate of silver in water, repeated every two months, will be found to prevent further decay and to keep the teeth in a healthy state until the time for the eruption of their permanent successors. Cavities of this class in the cuspids can, because of the larger size of these teeth, ordinarily be prepared and filled. This should be done, as these teeth are among the last of the temporary

set to be lost. Should the decay be very superficial and extend over a wide area, the best results are obtained by removing it and thoroughly cauterizing the dentine and also the enamel margins with the nitrate solution already spoken of, and repeating it as often as is found necessary. If the decay has progressed so far as to make a filling advisable, a thorough cavity preparation is indicated, after which oxyphosphate of zinc cement mixed to a creamy consistency is used to line the cavity and silver amalgam packed into it while the cement is still soft.

When the fissures or pits on the occlusal surfaces of the molars are first attacked by caries it is a simple matter to prepare and fill the cavity.

To digress a little; I never use the rubber dam or any clamp when working on the deciduous teeth, deeming either unnecessary and apt to frighten the little patient, and children talking about the visit to the dentist with their playmates can, by describing such things, do a great deal of harm. My belief and practice is to make any operation on the temporary teeth as simple and expeditious as is consistent with good work.

To return to the cavities under consideration. Remove the decay with a small round or inverted cone bur, for if a cavity is of such size as to admit large burs, the excavating should be done with hand instruments. If the tooth is to remain in the mouth for some few years, take the same care in preparing the cavity as you would in an adult's tooth, making slight undercuts, smoothing the edges and extending the cavity through all deep fissures to the end. When everything is ready for the insertion of the filling, place a napkin or cotton roll in position to keep the saliva away, dry the cavity well and apply the saturated solution of the silver nitrate to all surfaces, dry with warm air and insert a quick setting silver amalgam from which the mercury has been well expressed. If the tooth is at all sensitive to thermal changes, a piece of thin asbestos paper may be placed as a cavity lining under the amalgam. When the teeth are of a chalky structure I use copper instead of silver amalgam with excellent results. As the cavities become deeper I use the oxyphosphate of copper cement for a lining and pack the quick-setting silver amalgam into a cement before it has hardened. In my estimation this kind of a filling is ideal in the majority of the deeper cavities in the deciduous teeth. Approximal cavities in the molars usually involve the occlusal surfaces also, and when the pulp is not exposed or diseased, a filling similar to the one just described is very successful in preserving the teeth and maintaining the interproximal spaces. Occasionally a healthy pulp will be accidentally exposed when removing the decay, in which case a crystal of thymol propor-

tionate to the size of the cavity is to be placed over the exposure and touched with a warm instrument; this will liquefy the thymol and cause it to flow over the exposed portion of the pulp. The thymol will harden in a minute or less and is then to be covered with cement, using a creamy mix so as to avoid pressure. When the cement has set, proceed to fill the rest of the cavity just as though the accident had not occurred. Great care must, of course, be taken to protect the pulp from the saliva or other sources of infection if this treatment is to be successful. I have used this method for about six years with a great deal of satisfaction.

With pulps which are diseased but still vital I have found the best treatment to be devitalization and extirpation. Arsenic should never be employed in connection with the deciduous teeth, for its use is accompanied with great danger of necrosis. Here again the silver nitrate can be used to advantage; place a small pledget of cotton wet with a saturated solution of the drug in contact with the pulp and its painless devitalization will usually be complete in two or three days. Occasionally more than one such treatment will be required, but not very often.

After the pulp has been removed the canals and pulp chamber are best filled with a paste made up of equal parts of red oxide of lead and iodoform, mixed to a workable consistency with oil of cloves or creosote. Never place any cotton, gutta-percha points or other hard substance in the canals, for by so doing the absorption of the roots will be interfered with.

When the pulp has become putrescent, a thorough mechanical cleansing is in order, followed by the introduction into the pulp chamber of some oil of cinnamon. This should be sealed in for two or three days, renewed at the next sitting, and left for a few days more. After all odor of putrescence has disappeared, the canals are to be filled with a paste composed of equal parts of oxide of lead, iodoform and thymol, moistened with oil of cinnamon.

Where the tooth containing a putrescent pulp has developed an alveolar abscess at its roots, and in the operator's judgment can and should be preserved in the arch for some time, the most satisfactory treatment in my hands has been the thorough drainage of the pus, and the flushing of the abscess tract with tincture of iodine, treating and filling the canals as already indicated. I have used the cresol-formalin formula of Buckley in a number of cases of putrescent pulps in the deciduous teeth, but have never had the same success which follows its use in treating like conditions in the teeth of adults.

Nothing has been said about filling the teeth after the roots have

been cared for in accordance with the foregoing suggestions. This depends entirely on the location of the cavity, and the amount of tooth structure remaining to retain the filling material; in the central and lateral incisors the oxyphosphate of zinc cement is probably the best; in the cuspids the combination filling of this cement with silver amalgam will usually meet the requirements, while in the molars, if possible, the oxyphosphate of copper cement and amalgam filling is ideal. Often the tooth is so badly broken down that anything but an oxyphosphate of copper cement is out of the question; for this cement will do more in the way of saving whatever tooth structure remains than any of the other filling materials we have. Sometimes gutta-percha can be employed in filling the temporary teeth, but its use is very limited and I rarely use it except to seal in dressings.

Some objection can be raised to the use of iodoform in the pastes for root canal filling on account of the disagreeable odor it possesses, and to such objectors I would say that none of the substitutes for iodoform have ever proved at all satisfactory, and to discard so valuable a drug simply because it has an unpleasant odor is not justifiable.

That other methods than those I have given here will accomplish the same results in other hands is undoubtedly true, but there must be a basis for any mode of treatment, and it was with that idea in mind that this paper was written.

No hard and fast rule can be made to cover all cases of a similar nature, and to attempt to do so would be folly, but if sensibly followed out the methods I have outlined will, with modifications to suit unusual conditions, give others the same good results that I am having with them in my daily practice.

HONE YOUR HYPODERMIC NEEDLE.—Do so before using it, at every operation. Why? The needle can be inserted with much less pain. The needle corrodes more at the point; honing will remove any corrosion present and minimize the liability to infection. Use a small Arkansas stone and draw it several times toward the point in the line of the bevel. The chief advantage of honing is that there is much less pain on inserting the needle, and you will not hear the remark so often made, "Putting in the needle was worse than the pulling."—R. M. BRIGHT, Paducah, Ky., *Dental Cosmos*.

THE CARE, TREATMENT AND FILLING OF THE TEETH AND CONTIGUOUS PARTS, IN THE MOUTHS OF CHILDREN FROM BIRTH TO SIXTH YEAR

By G. B. MITCHELL, D.D.S., BUFFALO, N. Y.

SECOND PRIZE ARTICLE

THE DECIDUOUS TEETH

THE first attendance upon the child, in connection with the deciduous teeth, which the dentist is called upon to render, may be in the treatment or assisting in the treatment of the diseases of dentition, or in the lancing of the gum tissue to facilitate the eruption of the deciduous teeth.

Many diseases of childhood which have been termed diseases of dentition we know now to be due to ill-feeling, nervous disturbances, or due to unsanitary surroundings, and extreme care must be exercised to make a correct diagnosis. The real disease of dentition is of reflex nervous character, such as fretting, fear, sore and swollen gums, fever, etc.

The presence of stomatitis, either as follicular, acute or ulcerative, aphthæ, thrush, etc., should be readily recognized by the dentist and referred to the medical practitioner. Caution the parent to look to the feeding and feeding appliances and recommend a wash of

Borax.....	30 grs.
Sod. Bicarb.....	1 dr.
Dist. Water.....	4 oz.

LANCING

Lancing of the gum-tissue for the relief of pain and assistance to erupting teeth is correct practice. The condition demanding lancing may be organically manifested or reaction may take place in the nervous system (depending on the temperament, health and diet of the child), often causing serious functional disturbances. Great care must be exercised to lance at the correct time and not too early, which causes a denser (cicatricial) growth of tissue to form; this only exaggerates the trouble. The use of Zhongiva I have found to be excellent in teeth-ing. Apply by means of cotton swab on the finger.

OPERATION

Curved or pointed bistoury to be used, cutting deeply enough to divide the tissues over the tooth and extensively enough to free it.

To lance on the lower jaw.—Seat the child in the lap, facing the operator.

To lance on the upper jaw.—Seat the child in the nurse's lap, facing from the operator.

The administration of potassium bromide (2-5 grs.), if necessary, quiets the patient; while chloroform is often necessary when the child is in convulsions.

THE CHILD'S FIRST VISIT

When the little patient is presented to the dentist for the first time, our efforts should be divided between the entertainment of the child and the clear and decided instruction of the parent with most of the following facts:

That no one has greater need of perfect teeth than the child.

That the mouth is the vestibule of human life, and whatever enters goes to build up the bodily and mental strength—which depends on perfect digestion and assimilation.

That decayed and missing teeth cause a child to pollute and bolt its food, thereby poisoning the system, and by insufficient mastication giving the child bad breath, pallor, indigestion, and even going so far as to invite tuberculosis.

That defective teeth are the chief cause of nervous diseases in school children (in Brooklyn out of 600 children examined in the schools only nineteen did not need dental attention).

That the parents should be notified by card, monthly or so, as each patient requires, to present the child for examination and prophylaxis.

That to have the physical stamina to go through this world one must have vigor and health in childhood. This is impossible where defective teeth are present.

That poor teeth mean poor health.

That the alimentary tract comes in for its share of bacteria from the oral cavity, and thereby invites disease to the child.

That abscessed teeth cause eye and ear trouble—often appendicitis.

That parents should forego speaking of pain and dental operations before the eager, listening ear of the child or children at home.

That the reasons for saving the deciduous teeth are:

1. To prevent pain.
2. To permit of proper mastication.
3. To preserve the arch for the permanent teeth.

And, finally, don't be afraid to tell them all these facts. It is your duty.

DECIDUOUS TEETH

Vital organs, with a vital dependency upon the tissues. Intimately connected with the rest of the body and nourished by the same blood and nervous system as the other organs.

These important facts seem to be lost sight of by the members of the medical profession, and, sad to say, by many dentists, when the deciduous teeth are to be considered. This neglect to care for and fill the temporary teeth is a glaring shame. It allows diseased and decaying roots and teeth to perform the important functions of building up the health and vigor of the future man or woman.

RECEIVING THE CHILD

Remember that the child's first visit is the most important; the most deeply impressive. Entertain the child's mind with anything but the thought of what you are about to do. Don't speak of pain, grinding, etc. Overcome the fear that nearly every child has on its initial trip.

It is not necessary to put the little one in the dental chair; let the child sit in the mother's or the nurse's lap. If you have a chair with a child's seat attached, tell the child that it is for "kiddies" only, and make him feel like a privileged character. Let him just visit in the chair—raise and lower it, calling it "your elevator," and usually do nothing else, except, of course, when the relief of pain is sought. "Amusement tactics" are especially to be brought into play when you observe signs of nervousness in the child. Some children, like little "majors," sit right down and tell you to go ahead.

Make each sitting as short as possible. Never tell a child you "won't hurt," when you may perhaps do so. They lose all confidence in you, which once lost is hard to regain.

If you become nervous yourself dismiss the child at once, as there seems to be quicker telepathic communication and reception of such conditions with a child than with an adult.

Never allow a child to see any more of the instruments than is necessary, but should you observe an interest manifested in what you have, stop, show it to him or her, and explain the "how" of it. Don't attempt to hide anything. Be cheerful—always. If you feel at all "grouchy" never receive a child. A story is told of a dentist who was strongly recommended to the parents in several families by the children themselves, saying: "Dr. ——— is so nice, he hums a tune all the time and is so happy."

Be sure to provide juvenile literature in the reception room.

PROPHYLAXIS

Prophylaxis for the child is the most important branch of dentistry, as it is here that we can reach our goal of Preventive Dentistry—giving the world a more vigorous race and a lower death rate, simply better health by the road of better teeth.

Whenever possible (and strive to make it possible) have the parents present the child monthly for prophylaxis and examination. Follow this treatment by swabbing the teeth with a 10 per cent. solution of silver nitrate, as recommended by Dr. Conrad. This works its way into the fissures and sulci of the teeth, prohibiting decay, and it does not discolor the teeth save where a danger spot exists—*i.e.*, just where it is needed. It is a most valuable procedure in Preventive Dentistry.

Teach the child (and the parents to see to it) that the teeth are cleaned after each meal; "get the habit" early in life; tell them they "wouldn't eat from dishes that were not clean"; then why eat with unclean teeth? Instruct them to see that the teeth are always brushed after eating candy.

TREATMENT AND FILLING

Home Treatment of Odontalgia.—Ammonia on cotton. It gradually devitalizes the pulp and removes the same by saponification. Or the oil of cloves may be substituted.

Office Treatment.—Always use warm water to wash out cavities. In testing for an exposed pulp, use only a *drop* of cold water carried between the beaks of the dressing pliers, never the syringe. Oil of cloves and carbolic acid are perhaps most widely used in the treatment of pain in the deciduous teeth. Avoid by all means the use of cocaine.

Wherever possible, without consuming undue time and without causing pain, fill posterior cavities with amalgam. If decay cannot be entirely removed, prepare cavity as near box shape as possible, and fill first with copper amalgam, followed by the regular amalgam; or mix thymol crystals with the ordinary cement, insert and follow with amalgam; or one may use copper amalgam alone—but be sure that you use a copper amalgam which you know will not cause a poisoning to occur upon the adjacent tissues; some makes will do this.

In the anterior teeth use a quick-setting submarine cement or gutta-percha, as personal observation indicates; always remembering to cut short the time for the child, so he can pursue the even tenor of his way without too much thought of dentistry.

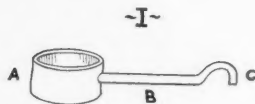
Never tire a child by the insertion of a gold filling, nor by the use of the rubber cloth—it is unnecessary.

A very durable filling for the posterior teeth is to mix the cement liquid and powder and to this add some mixed amalgam. When the cement has hardened, burnish the amalgam all over the surfaces. Use a thin spatula instead of the matrix in the child's mouth. Contour all fillings.

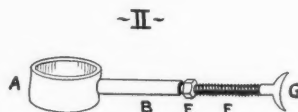
DEVITALIZATION OF PULPS

When necessary devitalize with applications of carbolic acid or arsenic applied with a paste of bicarbonate of soda and carbolic acid. Sealed with cement will cause no pain. See the patient next day, look for leakage; if present, touch the parts daily with solution composed of a saturated solution of iodine crystals in creosote.*

Follow arsenic, after 24-48 hours, with an application of glycerite of tannin, and leave three days. Then remove the pulp (bulbous portion), with large bur or excavator and make no attempt to use broaches in the canals.



No. 1.—A, Band about the tooth posterior to the space left by premature extraction of temporary tooth. B, wire reaching across space and terminating in point C, which fits into sulcus of tooth anterior to space.



No. 2.—A, Band about tooth posterior to space. B, E, and F, jackscrew sleeve, nut and shaft. G, shield resting against tooth on opposite side of space.

ROOT CANAL FILLING

1. Balsamo del deserto (recommended by Dr. White years ago); or,
2. Iodoform and glycerine paste; or,
3. Salol (recommended by Dr. A. Mascert, 1894); or,
4. A preparation containing thymol, tricresol, etc., and which absorbs with the root; or,
5. Iodoform crystals in the menstruum of eugenol, covered with wax and followed by cement.

NECROTIC PULPS

This condition in deciduous teeth is the most trying of any with which we have to deal. Our desire to relieve the suffering patient and

* While Dr. Mitchell probably writes as his own experience indicates, it should be borne in mind that the use of arsenic in the deciduous teeth is generally viewed with marked disapproval because of the possibilities of harm to the underlying tissues.—Editor's Note.

our fear that we may cause more pain, or have the child think we do, makes it imperative that we give our best efforts to the relief of this condition. Fortunately for both operator and child, the tissues being of a softer consistency, abscessed conditions arise and are aborted more readily than in the adult, and yet no one perhaps suffers any more during the inception of this condition than our little patient.

TREATMENT

Wash out the affected tooth with warm water, followed by peroxide of hydrogen. At the first sitting, open the pulp chamber and allow escape of gas until next sitting. When the little patient again presents for treatment, proceed as in adult's mouth: remove cause, evacuate pus. Place a drop of carbolic acid on the gum tissue at the point of abscess and, without permitting the child to see the knife, open the abscess quickly and deeply. Exert little or no pressure—let the weight of the lancet carry it into the tissues. The administration of a physic to the child at night helps in the eradication of the pus.

The use of the formaldehyde treatment is very efficacious in this condition. Seal it with cement, for if gutta-percha is used, when bitten upon it acts as a piston, forcing the solution beyond the apical tissues.

The administration of a hot mustard foot-bath, and the application of ice to the part, is often abortive. To hasten the abscess formation use warm applications or warm alcohol in the mouth.

EXTRACTIONS

Extract deciduous teeth only when defeated by the court of last resort. Keep the roots in place (even if separated, by applying silver nitrate), unless you can keep the space open, as later described.

Extracting to aid in the eruption of the permanent teeth depends entirely on the individual case, but rather extract too late than prematurely.

Decay in the second deciduous molar should be replaced by a properly contoured filling and not by the pernicious habit of grinding a "V" shaped space, as taught a few years ago. Such a procedure causes the first permanent molar to advance just enough to throw the basal occlusion out of harmony.

Loss of the second deciduous molar allows the first permanent molar to advance into its space, thereby causing either crowded permanent bicuspid or the "buck-tooth" cuspids.

If deciduous teeth must be extracted prematurely, keep the space

open by means of a small band and wire spread across the socket, as illustrated.

Whenever you can get the "ear" of a school-teacher or a school-board director, strive earnestly to show the need of dental examination in the schools. Ask him to give a helping hand in making the examination of school-children's teeth and the reporting of the same to the parents, by means of charts, compulsory.

If each one of us would do this an enormous power for good would be started.

Lastly, if you do not take to children, do not attempt to work for them, and have it so understood in your practice. You, as well as the children, will be greatly benefited by the arrangement.

" He who takes the child by the hand,
Takes the mother by the heart."

Summary.—Keep after the parents. Be kind to the child.

Avoid the child's worrying about dental operations.

Use as little time as is consistent with good work.

Look for preservation rather than esthetic work.

Practise and preach prophylaxis.

QUININ AS A LOCAL ANÆSTHETIC.—The latest claimant for attention as a local anæsthetic is quinin. My attention was called to it by Dr. F. B. Rogers, of Kansas City. After considerable experimentation it was found that a strength of about eight per cent. was effective. The 7-10 gr. quinin and urea hypodermic tablets prepared by Parke Davis Company are a convenient form to use. The small quantity of urea is added to facilitate the solution of the quinin. One tablet to thirty-five minims of a normal salt solution will make a perfectly balanced solution for injection. In about fifty tests this preparation has produced anæsthesia as profound as can be secured with two per cent. cocain. There can be no question as to its safety.—DR. F. G. WORTHLEY, Kansas City, Mo., *Western Dental Journal*.

THE MECHANICAL SIDE OF ANATOMICAL ARTICULATION

BY GEORGE WOOD CLAPP, D.D.S., NEW YORK

(*Second Article **)

WE have now learned what are the characteristics of articulation as exhibited by the best natural dentures, and may proceed with those steps which will reproduce such articulation in the artificial dentures.

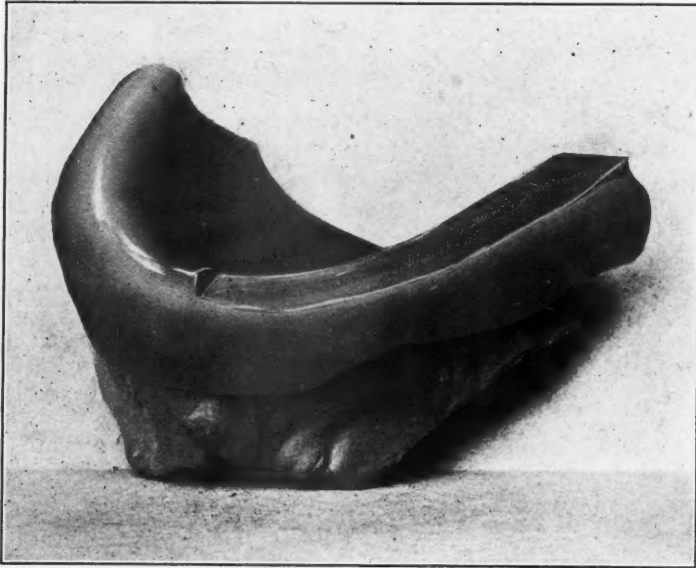


No. 13.—Making pressure on the knife blade to bring it parallel with the line on the face. This determines the occlusal plane of the bites.

This series began in THE DENTAL DIGEST for December, 1909.

Good dentures presuppose good impressions and good models of both jaws.*

Over each model a base plate of base plate composition should be shaped and trimmed to approximately the area the plate is to occupy. These base plates might be made of wax or of modeling composition, but the extent and character of the manipulation to which they are to be subjected make it advisable that base plate composition be used. This can be obtained at any dental depot. It is easily shaped when



No. 14.—Upper bite (inverted) with the proper occlusal plane established on one side.

warm and very stable when cold. It may be accurately adapted to the model, permits getting suction under the upper bite and assists in making a thin and even denture over the vault.

When this base plate has been adapted to the upper model and trimmed to approximate shape it is transferred to the mouth and fitted just as a gold base would be. It should be as high all round as may be without being displaced by the downward pull of the muscles.† The

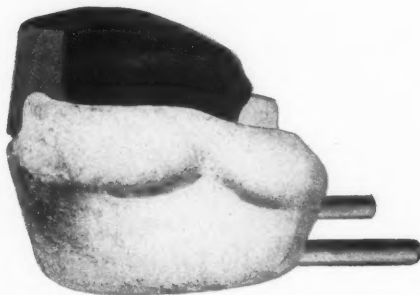
* In this series of articles it is assumed that full upper and lower dentures for one mouth are being made together.

† The height may be determined by trying the base plate in the mouth and then pulling the cheeks and lips downward. The sides should be trimmed until the base cannot be dislodged in this manner. There should be good clearance at the frenum and at the buccal strings.

retention may sometimes be greatly increased by making the rim high from the second bicuspids to the heels.

The upper base plate is left in this condition while a step slightly in anticipation of our immediate requirements is taken. That step is to draw on the patient's face, by the aid of a ruler, a line from the lowest point of the external auditory meatus * to the lowest point of the ala of the nose. This line may be seen in illustration No. 13. The importance of it will be seen presently.

Any moisture present on the upper base plate is now dried. A sheet of base plate wax is cut to about two-thirds its usual length and



No. 15.—Section of an upper bite at the median line, trimmed labially and occlusally as required for the case in which it was used.

heated on one side till the wax begins to run, when the softened side is doubled on itself. One side of the folded sheet is now heated in like manner and again folded on itself, forming a roll. The roll, still soft, is aligned along the upper ridge and quickly and firmly attached with the aid of a hot spatula.

A silver table knife is now laid within reach of the right hand. While the wax ridge is yet soft, the bite is placed in the mouth and supported by the pressure of the fourth finger of the left hand in the vault. The blade of the table knife is laid along the ridge on the right side, from heel to median line, and supported firmly in position by the middle and fore fingers of the left hand. With the right hand elevate or depress the projecting portion of the knife until it is seen to be *parallel with the line drawn on the face*. It is not expected that the knife will continue this line, since it is naturally below it; but that it will be parallel with it.

* The external opening of the canal to the middle ear.

The pressure of the knife on the still soft wax of the ridge will flatten the occlusal surface, as in illustration No. 14, and align it parallel with the line drawn on the face. To get this surface parallel with



No. 16.—Marking the "rest line."

this line was the object sought when using the knife. We shall later carve this bite so that this surface will no longer be flat, but the accuracy of our future work will be greatly aided by getting this occlusal surface into the proper plane at this time. The bite should now be removed from the mouth and the occlusal surface of the ridge on the left side trimmed to correspond with that on the right.

The upper bite, thus trimmed, is put back into the mouth, and the lips are brought together lightly in repose. This position of the lips is shown in illustration No. 16. An instrument is now placed between



No. 17.—Edentulous patient seen from the side. The sinking of the lips as well as the vertical droop is here clearly seen, especially at the corner of the orifice of the mouth.

the lips and a horizontal line is marked on the labial surface of the upper bite. This mark is known as the "rest line" from the resting position of the lips.* See illustration No. 16. The bite is now removed

* The lips are said to touch lightly in repose when it does not require effort to get them together, and when they do not touch so heavily as to be unduly turned out at the margins.

from the mouth and a parallel horizontal line is made about $1\frac{1}{2}$ millimeters (approximately one-sixteenth inch) below the rest line, and the bite is trimmed vertically to this mark. Care must be exercised to main-



No. 18.—Edentulous patient showing drooping of soft tissues following extraction of teeth. The labial ends of the nose and septum droop and the tissues in the labial triangle sink inward.

(This picture and No. 19 were taken in the same light at the same time, and illustrate very clearly the possibilities in restoration.)

tain the occlusal plane already established. Should the upper bite be shorter than would be indicated by the above measurements, it must be built down, maintaining the occlusal plane while so doing.

When experience makes it possible, it will be found practicable to press the knife blade upward till the bite is but little deeper than the

upper lip is long. Very little trimming will then be necessary to establish the correct length of the bite.

The upper bite, trimmed to correct length, is left in the mouth,



No. 19.—Patient with bites in position. The labial ends of the alae and septum are pushed up to place, vivifying the expression. The lips are built out in harmony with the general facial contour. Note how much more animated and vigorous the expression is than in No. 16.

while a roll of wax is shaped and attached to the lower bite in the same manner as was done to the upper. This is shaped to be deeper vertically than the finished bite will be. While the ridge is still soft, the lower bite is put into the mouth and the jaws closed together until the lips lightly touch in repose. By a little practice, this may be success-

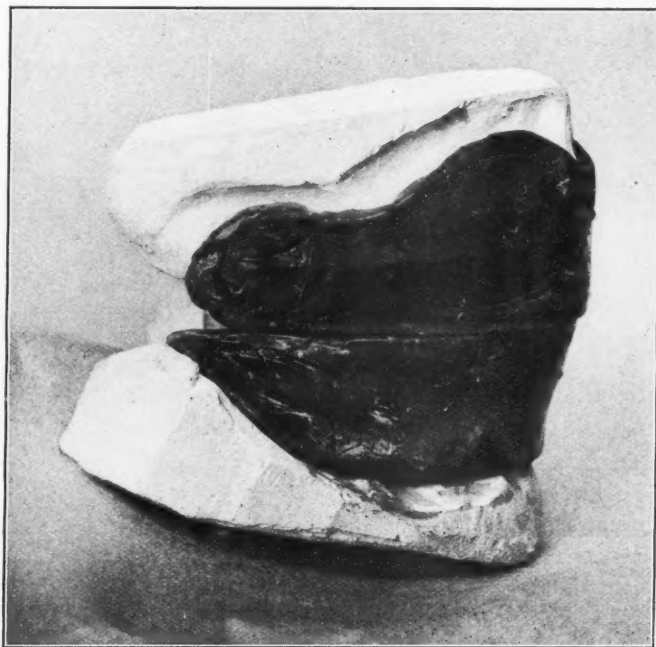
fully done, especially if the patient is not allowed to approximate the jaws too rapidly. When the lips are in correct position the lower bite will be of the right height and will have its occlusal surface in the proper plane.



No. 20.—Patient with bites properly built up and out as in No. 21. The tissues in the labial triangle, the alve and septum, and the corners of the orifice of the mouth have been lifted by a bite made high over the cuspid eminence. Contrast the appearance here and in No. 17.

The combined height of the bites will be found unevenly divided, the upper bite being much higher than the lower. This is because the bites are designed to fix the positions of the upper teeth rather than of the lowers. When the upper teeth are set, the lowers may be set to

them, underbiting them in the anteriors, and interdigitating with them in the posteriors. In most natural dentures nature extends the upper centrals below the rest line. By doing so she enhances the beauty of the expression when the lips are slightly separated, as is common in periods of relaxation; and she maintains for the edge of the lower lip,



No. 21.—Upper and lower bites with occlusal plane properly established and built out labially and buccally to give proper expression. The upper bite is as high over the cuspid eminence as can be worn and lifts the tissues, as in illustrations Nos. 18 and 19.

when the lips are closed, that outward turn which contributes so materially to facial expression and often to beauty. The fact that the lower bite is shorter than the lower teeth are to be, need cause us no uneasiness, since it will be remedied when the lower teeth are set to underbite the uppers.

Now that the bites are of correct heights, the trimming or building of the labial and buccal surfaces to give the desired facial expression may be done. While doing this trimming the dentist will have opportunity to exercise his artistic ability in restoring the expression of the face. Following the extraction of the upper cuspids, the outer plate

of the plate of the alveolus sinks and the soft tissues fall not only inward but downward. See illustrations Nos. 17 and 18.

Much of the loss of habitual expression may be restored by lifting the tissues vertically.* The effect of such lifting on the expression of any patient may be seen by placing a dull blade instrument under the lip of an edentulous person and pressing upward. The facial ends of the septum and of the ala, together with the tissues which form what might be called "the labial triangle," † may be lifted toward the eye. By this lifting, the "drooping" expression so common to edentulous faces may be largely done away, to the great advantage of the patient.‡ See illustrations Nos. 19 and 20. If the upper bite be trimmed high over the cuspid eminences and as high from these to the frenum as may be without dislodgment of the bite by the muscles, this lifting may be, at least in part, accomplished.

The distinction must be kept in mind between a high bite in this section and a thick one. A bite is high vertically; in this section it would be thin from jaw-bone to lip. It will be frequently necessary to carve the bite as thin in this section as the plate can safely be. The bites for the case here illustrated are shown in illustration No. 21.

When making plates without anterior gums it will often be found advisable to have a horn of rubber reach forward from where the gums begin and establish this restoration of the soft tissues.

The guide as to the fullness of the lips and cheeks is found in the expression, and the bites should be built or carved as may be shown, by trial in the mouth, to most favorably affect that expression.

Upon the bites thus properly carved we have now to record the dimensions of the teeth indicated for the case in hand. This may be easily done by observing the rather constant relations between the positions of the lips and the sizes of the teeth in the majority of normal mouths. Even were no such relations observable, the following method would still be of great aid in obtaining artistically pleasing results with a minimum expenditure of time and labor.

It has been noted that about three persons out of four, when smiling unobserved, raise the upper lip until its edge is on a level with the necks of the natural centrals. The effect thus produced is very pleasing, much more so than in those cases where the lip is not raised to the necks of the teeth or is raised much above them. Profiting by this observation, we may have the patient raise the lip by the use of the elevator muscles

* This means vertically when the head is upright.

† That triangle formed by the ala of the nose and the line from the ala to the corner of the orifice of the mouth, and spreading into the lip below.

‡ The writer is glad to acknowledge his indebtedness to Dr. A. O. Hunt for instruction on this point.

and make on the labial surface of the upper bite a horizontal mark at the edge of the lip, as in illustration No. 22.

The line thus obtained is known as the "high line," and may sug-



No. 22.—Marking the "high line."

gest to us the proper location for the necks of the artificial centrals. The distance between this line and the labio-incisal angle of the bite would then be the length of the artificial centrals, save for the collars which are embedded in the vulcanite.

Should the length thus indicated be obviously too great or too short for esthetic results it can be modified at will; but experience suggests

that in the average case it should be modified only after careful consideration. If artificial centrals of this length be selected, the denture, when exposed in smiling, will exhibit a maximum of porcelain and a



No. 23.—Marking the "low line."

minimum of vulcanite. So desirable an end is this that better results are obtained by selecting upper anteriors as nearly of this length as possible, even though they be slightly longer than the contour of the face might indicate. The exercise of a little art in their arrangement will partly conceal the length; and the exhibition of vulcanite should be avoided when possible.

To prevent the exhibition of the vulcanite of the lower denture the patient should depress the lower lip by the aid of the depressor muscles, and a "low line" is marked on the lower bite, as in illustration No. 22.



No. 24.—Marking the location of the corners of the orifice on the upper bite.

The lower lip is frequently depressed in laughing, or by movements peculiar to the person. If the necks of the lower centrals be located at the low line, no vulcanite will be exhibited. This line is subject to change at will, but the consideration which governs the location of the high line applies here with equal force.

Having determined the length of the anteriors, let us decide on the

width of the six anteriors taken as a whole. In cases where the orifice of the mouth is neither noticeably large nor small as proportioned to the size of the face, pleasing esthetic results may be realized by selecting upper anteriors of such combined width as will bring the distal angles of the cuspids at the corners of the orifice of the mouth.

This dimension is subject to the same variations as the length of the anteriors. In some cases the orifice is large in proportion to the face. In such cases the anteriors should not be as wide as the orifice. In some cases the orifice is small; the anteriors may then be somewhat wider. In cases where the ridge is pointed at the median line "squirrel mouthed," as it is sometimes called, the anteriors will be so prominent that they must be considerably narrower than the distance around the ridge from one corner of the orifice to the other.*

To register on the bite the width of the orifice place an instrument between the lips at the median line, move it gently to one corner of the orifice and make a vertical mark on the upper bite, and then, without disturbing the lips, slide it between them to the other corner and make a similar mark. See illustration No. 24. This method gives better results than inserting the instrument near the corners of the orifice, which tends to cause the patient to pull the corner back to avoid the instrument, and thus enlarge the orifice.

* A case of this kind was recently submitted in which it was necessary to place the distal angles of the first bicuspid at the corners of the orifice.

*(The next paper in this series is expected to appear
in the February issue.)*

CAST GOLD INLAYS.—In using occlusal gold inlays, the operator will find that a piece of rubber dam just large enough to cover the wax model, placed between the occluding teeth while the wax is soft, will make the articulating surface of the inlay occlude exactly, and there will be no grinding to do when the inlay is finished and polished.—CALVIN W. KNOWLES, M.D., D.D.S., San Francisco, Cal.

CASTING AGAINST PORCELAIN

BY W. E. CREATH, D.D.S., OTTUMWA, IOWA.*

Papers, Conventions, Society News, Laboratory Experiments, etc., are making a "mighty profession" out of dentistry. Grains of sand have made the mighty land. In this paper the writer wishes to add merely a grain which so far as he has ascertained is new.

HAVING tried practically every method for casting against porcelain without uniform success and with always some degree of failure, I began experimenting on my own account, with the result that I feel I have combined several good methods which simplify aluminum plate casting till it is easily practicable for every dentist to cast aluminum plates, casting indiscriminately against porcelain without fear of checking it.

S.S.W., Twentieth Century, diatoric or any kind of teeth may be used with equal success.

The major portion of my proceedings is a combination of various other men's ideas, and I deem it advisable to describe the entire operation, so that he who has not tried any method may carry out the operation in correct detail.

Take the impression in your own way.

Make the model out of Brophy's Imperial Investment material except for a thin coating of any good inlay investment material which is mixed separately and poured into the impression. Drain until a thin coating remains over the entire surface of the impression and finish the model with Brophy's Imperial Investment.

Mount the models on an articulator correctly, using your own method.

Wax the case and articulate the teeth as if for rubber.

Thus far usual methods have prevailed.

With three small strips of wax attached to three different locations on your wax plate construct what will later become gates, and join the three strips directly above the center of the plate.†

Remove from the articulator and flask.

Use the ordinary old style flask; invest exactly as for rubber, using Brophy's Imperial Investment material only. Prepare the lower half of the flask for separating. Then fill the upper half, leaving off the

* A combination of several men's ideas, and a few new ones added.

† Dentists who have THE DENTAL DIGEST for September, 1909, will find on page 635 an illustration of wax gates as described here.—EDITOR.

top; when partially set carve out with a spatula or old knife a cone-shaped crucible in the upper portion, which should reach down to the wax arms, thus connecting the crucible to the gates.

Separate as for rubber and remove all of the wax by boiling.

Now comes the portion which I believe to be original.

Paint every exposed surface of porcelain with whiting, also fill all crevices or spaces where the wax has overlapped the porcelain. This I claim to be sufficient protection to the porcelain while casting and allow for expansion and contraction of the metal.

Mix some pulverized asbestos with water and paint the entire rim of the lower portion of the flask, approaching the margin of the plate; this prohibits the escape of aluminum while casting; replace your upper part of the flask, bolt tightly and heat as for any other aluminum case.

Melt aluminum in the crucible, and with mouldine or common clay softened with water and placed upon a small block, use gradual pressure with sufficient force to press the molten metal into place.

Allow to cool gradually.

It has been my experience in practise and at several clinics that no facings will check with this method. The very thin layer of whiting, almost imperceptible, is sufficient to protect the porcelain, and if wax has been carried too far over the porcelain in the construction of the plate, whiting can be built on to the model and correct that deficiency, thus keeping the metal from overlapping the porcelain.

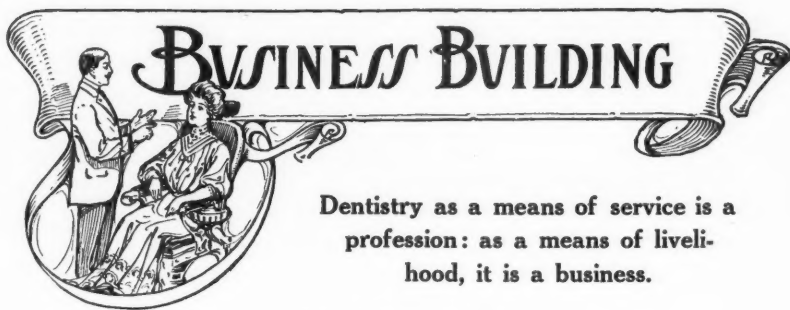
This method obviates the necessity of having an expensive machine or equipment, and the casting against porcelain provides many possibilities in prosthetic work.

I have been casting full dentures against the porcelain, leaving the wax carved away from the fronts of the teeth, and as a subsequent operation vulcanizing the pink veneer.

Partial dentures may be constructed where otherwise it will be impossible to use a metal base and vulcanize the porcelain on to the base.

Just a word of warning. Do not attempt to use any gold spring wire in casting connection where aluminum is used; it will alloy with the aluminum and destroy the spring quality of the gold wire.

You can't do justice to your patients unless you do justice to yourself.—DR. F. T. VAN WOERT.



**Dentistry as a means of service is a
profession: as a means of liveli-
hood, it is a business.**

THE REASONS WHY

BY FREDERICK CROSBY BRUSH, D.D.S., NEW YORK

WHILE chatting recently with one of the financially successful men of our profession, a man who prides himself on his dignity and with whom the word *ethics* is a fetish, the conversation drifted into a discussion of THE DENTAL DIGEST and the work it is doing for the business side of professional practice. He stated very frankly that he thought it had lost its standing as a scientific journal of considerable merit, and that under its present policy it had degenerated; that many of the articles seemed crude, and that it would not appeal to the high class men of the profession. He was asked if his practice yielded him a profit of three thousand five hundred dollars or more a year. He said Yes! several times that amount, and then seemed quite surprised when told that the DIGEST was not intended especially for him. It was explained to him that THE DENTAL DIGEST is not aiming to convert the men who have been professionally and financially successful, but that it is endeavoring to help the young men and those that have not as yet met with success to be better business men, and in the same ratio better professional men. He was told some of the facts known to credit men regarding the financial standing of dentists in general from a purely commercial standpoint; of how they are rated by such concerns as Dun's and Bradstreet's, or rather, how few have any rating at all. He was told of the quantity of letters being received from all over the country, telling tales of hardships, privations and pitiful economy, and asking for advice about how to better conditions. He was astounded at these revelations, and said that as he had never given the matter any thought, he had not known that such conditions were possible. After a bit of silence, during which he seemed to be pondering over the subject, he turned suddenly and said: "If what you tell me is so, and there are such conditions existing, then the DIGEST is doing a most excellent work, and it shall have my hearty support."

This led up to the question as to whether or no the journal was meeting with any support from the men it is trying to reach. He was told of the very limited subscription list that the journal had under its old policy, and how more than eight thousand new subscriptions had been received in a few months, and that many of these subscriptions were accompanied by letters of thanks for the help that had been received and urging that the present policy be continued.

Another instance—a short time after the article "The Making of an Advertising Dentist" had appeared, I was approached by a member of one of the State Examining Boards, a most conservative man and one who has made a success in every way; and he said: "That article has given me a new thought and a different viewpoint. I believe you are right, you are engaged in a good work, and I hope you will keep it up."

And so it goes. At first the work is ridiculed or condemned, but when the matter is laid plainly before such men and they are enabled to get at the facts of the matter and realize that we are sincere and in earnest, and are really aiming to help men help themselves, then they turn about and offer their support and urge that the work go on.

Why are some men willing to do this work? Well, perhaps because they are built that way. But one mighty good reason is that every man in the profession owes so much to the others that have gone over the path before him, and who gave so much of the best that was in them for the benefit of their fellows, that the only way such a debt can be squared is by willingly contributing his little mite to the sum total for the benefit of others that are still to follow. Do you know it is not an easy task after a hard day spent at the chair to give up an evening, or very likely several, and sit down and write and write and get into a perspiration while waiting for an inspiration? All for what? Just so that some other fellow may get easily and quickly some point of information that has only been gained by hard knocks or painful experience. I recall an incident of some years ago. One of my acquaintances was discussing dental journals and growling about the truck that was printed, saying lots of the stuff had been printed so often that it was nauseating and wound up by saying that if he couldn't write a better paper than most of those printed he'd—well, he would quit, that's all. It happened shortly afterwards that the chairman of an essay committee called upon him to read a paper before his society. The man accepted and started in. A few days before the meeting he came to me with a paper containing about two hundred words and said he was stuck and wanted me to help him put the thing in shape. Well, he read his paper and then—quit.

While coming home on the train to-night I could not help overhearing the conversation of two men sitting opposite me. One remarked that he was very busy just now; in fact, he found in looking over his engagement book just before leaving his office that he had been so engrossed with his work that he had entirely overlooked an appointment with his dentist for two o'clock. He was awfully sorry, but the dentist was a good fellow and wouldn't mind. The other man remarked that he had just had an experience with a dentist; he had been to him a number of times, probably about four or five hours altogether and the —— had charged him twenty-eight dollars. He concluded by saying he wished he could get seven dollars an hour as easy as that.

Can't you just imagine how I itched to butt in on that conversation and explain to Mr. No. 1 that when he failed to keep his appointment he was causing his dentist an actual and definite loss; that when a certain amount of time has been assigned to him, his dentist would not arrange to see any one else or do any other work during that time, and if the appointment was not kept, the dentist would be idle and would actually lose such proportion of the day's expense as was allotted to that hour or hours? As he proved to be a lawyer, I wanted to convince him that, when he agreed to an appointment for a definite amount of time on a certain day, it was a legal and binding contract, and he should pay for that time whether he was there or not, unless he gave the dentist sufficient notice to enable him to apportion the time to some one else without loss. Most people, and some dentists also I am afraid, have an idea that if a dentist is not working he is not losing anything. What a mistaken notion! Does the landlord when the month rolls around ask you about the hours you were not working and offer any reduction in the rent therefor? Do any of your other creditors accept such excuses when your bills become due? Hardly. Every minute of your time allotted to office hours has its own quota of expense to bear, and if that expense is not earned in that minute it is irretrievably lost. You may think that it can be made up some other time. When you extend your working hours beyond a reasonable limit, or work overtime, you are simply borrowing that much time from the hours which should be devoted to other things, your health, rest, pleasure, family or friends. Just get that idea fixed in your mind—every minute wasted during office hours is lost, irretrievably lost, and then when you make an appointment see if you cannot use a little psychological suggestion to make your patient realize that your time is valuable and must not be frittered away.

To the other man I wanted to do what his dentist should have done,

that is, make him understand that a charge of seven dollars an hour did not represent an amount that was all personal income which could be freely spent for candy and cigarettes, but probably sixty per cent. of it represented actual cost of conducting the practice during those hours, and that the other forty per cent. had to cover salary, profit or loss, and the chance of the practice showing any actual profit at the end of the year. People, in general, understand very well when they buy an article of merchandise that the price paid does not represent the profit to the dealer, but that the main portion of it represents the cost of manufacture and distribution; but when it comes to paying for professional services, they look upon the whole amount as being spending money for the doctor. That is why many of them do not pay their bills promptly. They have the idea that it is all easy money and profit any way, and you probably haven't any bills to pay, so they guess they will let you wait. And besides, the doctor is so nice about it; he never asks for his money the way the merchants do and insists that if it is not paid promptly he will refuse to serve you any more and threatens to bring suit against you; and doctor always smiles so nicely when you tell him you will send him a check later on that it seems a shame to offer him vulgar money. Little these people know that behind that smile there is often a quaking heart, wondering what is going to happen if some one does not pay up soon, and wondering if it is safe to try and raise a little more money on that life insurance policy to stave off that pressing creditor a little while longer.

This was the sort of thing that I wanted to make plain to these men as I listened to their conversation, but of course I couldn't, and so I came home so full of the subject that I just had to put it on paper and tell all my friends about it.

Oh, if we could only make you all realize what it means to every man in our profession to be able to impress the public that we are not only good dentists but good business men and not like mere children that may be flattered and jollied along; and make you realize that being a better business man will make you a better dentist, and will give you the time and opportunity to seek the culture and pleasures that are the just reward of one that devotes his time and thought to the physical benefit of his fellowmen.

It is because just such things are being brought forcibly to the attention of some of us every day that we believe THE DENTAL DIGEST is aiming to do a good work, and we are willing to give of our time and energy to help the work along. It was only the day before Thanksgiving that I received a letter from one of my college acquaintances saying that he was hard aground and asking me to come to his assist-

ance and help him to get afloat once more and show him how to steer clear of the shoals.

Because you may be fortunately situated and satisfied with your own success in life, do not cast this matter lightly aside and without giving it any thought, speak slightly of the work that is being done. If you are not interested, well and good; but if you are, you will find, I am sure, *many reasons why*.

PHILANTHROPY AS A BUSINESS BUILDER

BY THE EDITOR

DENTISTRY has been a profession for at least a generation, but if it were to-day to be judged before the bar of an enlightened public opinion, its sentence, as to its delinquency in certain lines, might be severe. In no line would its shortcomings be more manifest than this: that it has not yet so educated the public that the rudiments of dental knowledge are common among the people.

What little dental knowledge the public has is confined to people who can pay good fees and have been so fortunate as to patronize dentists who would take the trouble to explain certain elementary facts. By this slow means a little knowledge has leaked out, but in spite of the generations of toothache, the public, as a whole, knows less about the teeth and their care than it does about appendicitis.

Certain dentists have from time to time and in various degrees interested themselves in the question of dental examinations of school children and free dental work for children whose parents cannot pay. No intelligent dentist can examine the results of these investigations, even in the most superficial manner, without becoming convinced of the great and pressing need for such work. Every argument on which our profession appeals to its paying patients calls us to this work. It means to the recipients health, freedom from pain and nervous tension, proper development both in bodily frame and facial beauty; the vigor to assimilate and apply an education; and finally an education of the public which will make good dentistry as necessary as good clothes.

Those dentists who have taken up this work and have appealed to their fellow practitioners for aid in giving free service for the poor, have met with infinitely less assistance than the merits of the case warrant. Certain noble minded ones have helped and are helping, "but the harvest truly is great and the laborers are few."

Efforts to have this work done by societies have met with success in certain localities, but in thousands of other communities nothing is being done and the children go to their graves or grow to maturity with defective teeth or with none. While the doctors deliberate the patient dies.

It is not the purpose of this article to appeal to dentists for free work among poor children, from philanthropic motives. Abler pens have done this with limited success. The purpose here is to trace one reason why such appeals have availed so little and to suggest a plan which is less ideal and less philanthropic, but may do some good.

Appeals for free service have largely failed because most of us are such poor business men that we are unable to afford it. This statement is apparently disproved by a mere glance at the dentists attending any dental society meeting. Good clothes predominate, and free spending of money is quite common; but clothes and spending do not form those assets which breed in the heart a feeling of philanthropy and power to help the unfortunate. There are few of us who know what it cost us to practice last year and how much of our gross receipts were really profit. In other words, we do not know whether we made enough to enable us to help others. There are quite a few who so conduct their practices that they can have the good clothes and free spending and still point to a steadily increasing list of income producing assets.

Few persons feel that they can consistently warm their neighbor's house until their own is warm. And while those dentists who have good business ability have attained fees which prompt and permit philanthropic service, the average dentist does not so conduct his practice that he feels he can afford it. A silent testimonial to his own business inefficiency in the past, is the fact that necessity keeps him chained so continually to his task.

Strangely enough, a favorable answer to the appeal for free dental work will probably come from an unaffected direction. Let us improve our business methods while we are sufficiently prosperous so that we feel able to do this work. Then our native generosity, which has never been lacking, will yield an overwhelming response to this appeal as to others.

Merely to save the patients who suffer and die while the doctors discuss, the following expedient is suggested. It is not to take the place of society efforts or free clinics or any better means. It is not based on philanthropic grounds. It is suggested purely as a business move, a long-headed, calculating, shrewd move if you wish to call it so.

Let dentists send word to their local school authorities, preferably to the teachers direct, that from 8 to 10 A. M. Saturday they will do

free dental work for the children of parents too poor to pay, provided the child is accompanied by a parent or guardian. During those hours let the dentist do his best for such children as come; donating the materials, the cost of which will be slight. And while he thus serves the physical needs of the little one, let him educate both patient and parent as to the necessity for care of the teeth, the sure results of neglect and the rewards of health, happiness and efficiency attainable by a little daily care.

What are the objections to such a plan? First and perhaps conclusive to some, is the objection that it is self-seeking on the part of the dentist. So much is granted. It is done partly with that in mind. Second, it has not that stamp of authority, dignity and philanthropy which naturally attends work under society direction. Unfortunately this is true; the plan is suggested only as a makeshift until society work catches up with the demand. Third, the children may get the cheaper forms of work or it may be carelessly done. This may be true in some cases, but even good amalgams and cements cost but little per filling. As to careless technic, the dentist is doing this as a business-getter—advertising if you prefer to put it that way—and he would deserve and insure a poor reputation who did it carelessly.

What are the advantages of such a plan? Many, chiefly these; that thousands of teeth would be saved to poor children, that are now lost before their time.* Second, that the health, development, vigor and beauty of these children would be increased in direct proportion to the dental benefits conferred. Third, that dentists who donated this service and did it well would find their names spread abroad *among the paying classes* in a manner no other labor of theirs could possibly bring to pass.

Lastly, and greatest from the result-getting point of view, we should have within ten years a dentally educated public. Within that time our population will exceed 95,000,000 people, and one-half of them would probably be paying patients.† Figure what that means. Though the number of dentists was to increase by half, there will still be over 1,000 patients to every dentist. This is nearly four times as many patients as we average now.‡ Many of the money-poor are quite as estimable people as those better supplied with worldly goods. And seed

* Ninety-seven per cent. of the school children need dental work.

† Many who are not now paying patients lack information rather than funds. As the writer prepares this letter there sits near him in the train a man whose income is \$5.00 per hour, yet who greatly needs dental work. He is a good spender but no dentist has educated him.

‡ The most liberal estimate of paying patients is not over ten to the hundred of population. On this basis there are 8,000,000 patients for 32,000 dentists, an average of 270 to each dentist.

sown among them bears fruit in unexpected places. Opinions pass back and forth between these classes, especially in communities smaller than big cities, as the following case to which the writer can vouch, shows:

A certain busy physician in Boston had a rather troublesome patient who, because of financial reverses, could no longer pay. So when the son one day called for medicine, the physician said "I can no longer attend your mother. She owes me nearly \$100.00 and cannot pay. You must go elsewhere." The boy asked where he could go and was finally told that a young physician had settled near, who might be willing to take the case.

The young physician was kicking his heels in an empty and unpatronized office and readily agreed to go. His testimony long afterward was: "Mrs. S. is a welcome patient. She brought me a paying practice. She has never paid me a dollar and need not."

The fourth objection is that this plan is self-seeking on the part of the dentist. Well, what of it? Most of us are self-seeking with all our might, all the time. And if this self-seeking benefits others when no other efforts help and who otherwise endure in need and pain, what harm is done?

Unless you have a better plan than this, try this in your own office and write me its results.

A LETTER FROM A YOUNG PRACTITIONER TO HIS FATHER

This young man's father ran across the book—"Brother Bill's Letters"—and procured a copy for his son. The son tells the rest of the story better than anyone else.—EDITOR.

MY DEAR FATHER: Reached my office in good shape and am through work for the day, or at least I hope so.

I read "Brother Bill's Letters" coming out on the train, and became so anxious to do some figuring for myself I could hardly wait until my patient had gone.

This figuring is now finished, and I will show you how I stand.

Look it over and give me your honest opinion about it.

I figure I have \$1,600 invested, as follows:

Fixtures	\$500 00
Instruments	100 00
Dental furniture.....	1,000 00
	<hr/>
	\$1,600 00

The following table shows my running expenses per annum, allowing myself a salary of \$2,500 per year. That is, this is what Brother Bill says I must take in.

ANNUAL EXPENSE.

Interest on investment.....	\$160 00
Towels laundered.....	39 00
Coats laundered.....	31 00
Insurance.....	12 00
Office girl.....	260 00
Telephone.....	36 00
Electric light and power.....	132 00
Dental supplies.....	360 00
Supplies.....	480 00
Coal, oil, etc.....	30 00
Wear and tear.....	100 00
Rent.....	300 00
Salary.....	2,500 00
	<hr/>
	\$4,440 00

On the 15th of this month I shall have been here nine months.

Three quarters of \$4,440 is \$3,330, which is what I should have taken in during the nine months.

As a matter of fact, I have taken in during that time \$2,493.25 in cash, which is \$837 less than it should be. I have outstanding for work finished \$94, which, with the \$100 I will probably take in before the nine months are up, will make me about \$600 short.

When you consider that it took me a month to get under headway, and that I have done lots more business the last three months than I did the first three, why perhaps next year I will be able to earn the \$2,500, which is what I think my salary should be.

What do you think about it?

E. A. H.

THE TALLY

BY RICHARD LORD

*It isn't the job we intend to do
Or the labor we've just begun
That puts us right on the ledger sheet;
It's the work we have really done.*

*Our credit is built upon things we do,
Our debit on things we shirk,
The man who totals the biggest plus
Is the man who completes his work.*

*Good intentions do not pay bills;
It's easy enough to plan.
To wish is the play of an office boy;
To do is the job of a man.*

Reproduced from *System*, The Magazine of Business.

DENTAL OFFICES AND DENTISTS, AS SEEN BY THE PUBLIC

The person who visited these offices is of more than average intelligence. These reports are such as would come from a very large number of people who would make desirable patients.

A striking commentary on the ability of these dentists to sell their services to advantage may be gained by comparing the real needs of this patient with the offerings made by various dentists. The needs were:

First. Cleaning and prophylactic treatment. All the teeth were unclean. The salivary deposits had, in certain places, inflamed the gums and caused them to recede. The first great need in that mouth was that the teeth be cleaned, these deposits be removed and the gums returned to health.

Second. On the distal side of one posterior tooth was an amalgam filling, put in without separation or contour. On the anterior side of the next tooth back was another filling of the same character. These two fillings approximated each other. Neither was properly extended, neither was contoured. The interdental space was lost. Food wedged between the fillings and the gum was inflamed. Both fillings were leaking. Both needed replacing with proper separation, extension and contour. Sufficient separation could be gotten only by wedging with tape for a few days.

Third. Two or three pit occlusal cavities needed filling.

Fourth. Two roots needed extracting. There was little need for a bridge as one molar was the only tooth missing from the 32. This was the one of which the roots remained. Note how many dentists overlooked the real troubles in order to seize on this chance to sell a bridge.

The offices here reported on are selected from different cities to prevent identification.—EDITOR.

NUMBER ONE

Office located in business section, with clean and convenient but not light entrance. The reception room is cheaply furnished, but is neat; furniture looks worn. There are magazines for the entertainment of patrons. The operating room is neat, but has not sufficient light. Instruments are not so arranged as to make a favorable impression.

The dentist is of middle age, quick and nervous, but gentle in manner and clean in person. A colored girl is in attendance.

He said my teeth were in fairly good shape; he wanted to take out the two roots and take off the crown just back of them and put in a bridge for \$15.00. Also wanted to put in three amalgam fillings for \$5.00. He finally agreed to take \$2.00 less than the sum above, on condition that I pay \$5.00 down and the balance when the work is done.

NUMBER TWO

The approach is light, clean and convenient and the stairs lead into a good hall. The furniture in the reception room is new and hand-

some, while the operating room is small but looks sanitary in every detail. The instruments are bright and clean and everything looks modern. Some of the instruments were left out on the stand.

The dentist is of middle age, evidently of cleanly habits and made a very favorable impression. He was gentle in manner and talked a great deal. He has no attendant.

He will put my teeth in good condition for \$30.00. Wants to take the roots out and bridge the space and replace the fillings. He finally agreed to take \$26.00 for the work.

NUMBER THREE

The hall is dark but clean. The reception room is very pleasant, light, well furnished, and everything seems to be in good condition.

The operating room looks modern and is neatly kept. The chair looks excellent and the instruments are well arranged.

The dentist, who is of middle age, is very well dressed, with clean linen and hands and face, and makes a very favorable impression. He said that my teeth needed some fillings and that the roots should be taken out and the space bridge spaced in.

He would do the entire work for \$25.00 and I could pay at my convenience, provided I furnished a satisfactory reference.

NUMBER FOUR

This office has a light, clean and convenient approach. The reception room is light, clean and pleasant. It is neatly furnished with cheap furniture. The operating room looks modern and is neatly kept. The chair is neat and the instruments are put away.

The dentist wears flashy clothes and paste diamonds. His hands, face and linen are clean, but he talks too much. When examining the mouth he is very gentle and courteous, but very nervous in manner and his hands tremble. He seemed to think the crown was loose and should be re-cemented, for which he would charge \$1.00. He said that two teeth needed silver fillings, for which he would charge \$3.00 and there were two roots to be taken out which would cost \$1.00. He would make no reduction in the price and insisted upon cash at the completion of the work.

NUMBER FIVE

The approach is light, but not clean or convenient. The sign is too small and is not easily seen.*

* It is interesting to note by the reports sent in, that a sign which is so small as to require search to find it does not meet with the approval of the public and large signs meet with equal disapproval. Dentists who are not as busy as they would like to be might, with advantage, follow up the hint here given and have the signs of such size and so located that they can easily be found by those who desire them.

The reception room is of good size, is light and fairly clean. There are four chairs, sofa, table, etc., which are neat but evidently of poor quality. For the entertainment of patrons there was a current number of one magazine. The operating room was small but neat and clean. The chair was shabby and seemed to have been fixed up by inexperienced hands. The room appears to be sanitary and the instruments are put away.

The personal appearance of the dentist is neat and pleasing. No office girl.

The dentist was gentle and courteous in making his examination. His estimate was as follows:

Roots taken out, \$1.00.

New gold crown, \$5.00.

Cement filling, 50 cents.

Teeth cleaned, 75 cents.

No reduction and no credit.

NUMBER SIX

The approach was light, clean and convenient. The reception room was light and convenient, but the furniture is old and worn. There is no reading matter for the entertainment of patrons. The operating room does not look modern or sanitary. The chair looks old, and as I entered the office I noticed several instruments left in sight.

The dentist has clean clothes, but his linen is soiled. He has no office girl. In examining the mouth he is gentle and considerate. His estimate is as follows: 2 gold fillings, \$5.00. Roots extracted, \$1.00. Bridgework to fill the space, \$12.00. Upon a little urging he reduced his price by \$1.00, but would not extend credit.

NUMBER SEVEN

The approach was not convenient, the stair-case was not light and the balustrade was dirty.

The reception room is light, clean and pleasant, but has little furniture. The carpet was clean, but showed marked signs of wear. There were a few books scattered about, but no periodicals.

The operating room was neat and clean, but the chair was of plush and rather soiled. The instruments are put away, but there was a foot drilling machine.

The dentist's clothes were clean, but his cuffs were soiled and his breath was bad. There was no office girl.

The dentist was courteous in manner, but made his examination too quickly. His estimate was as follows: Roots out, \$1.00. Bridgework to fill the space, \$10.00. Silver filling, \$1.00.

NUMBER EIGHT

The approach to this office was unclean. The hall is dark so that it must be lighted in the daytime, and there was considerable dust present. The reception room was dark and was pervaded by a very strong smell of cooking. The room was clean and in good order, but did not have a modern look. There were some books and a book-case, but no magazines for the entertainment of patients. Except for the fact that it does not have enough light, the operating room looks very sanitary and clean.

The dentist's clothes were clean, but shabby, and his linen was clean, but noticeably worn. A pleasing girl in attendance.

In handling the mouth the dentist was not gentle.

He gave estimates as follows: Two roots out, 75 cents; cement filling, 75 cents; teeth cleaned, 50 cents; gold crown, \$5.00. No reduction and no credit.

NUMBER NINE

Approach clean, but not light enough. A good sign that can be readily seen.

The reception room clean and well furnished, but not enough light.

The dentist is very clean and very well dressed and makes a very favorable impression, but there is no office girl. He is not gentle when handling the mouth, though he is polite. His estimate was as follows: Gold crown, \$5.00; silver filling, \$1.50; cement filling, 75 cents; two roots out, 75 cents. He would make no reduction in price, but gave me terms of \$3.00 down and the balance in thirty days.

NUMBER TEN

The approach to this office is very good. The hall is not very light, but is clean and of refined appearance.

The reception room is in excellent taste. Nothing is elaborate, but everything is fresh, clean and cool, and there is an evidence of simplicity throughout. There were current numbers of magazines neatly arranged, and as a whole, the reception room looked as a dentist's reception room should.

The operating room was rather small, but was sanitary. The only fault I could find was that the patients seated in the reception room could see just what was going on.

The dentist is very agreeable, wears good clothes and has immaculate linen. Manner was gentle and pleasing. No office girl. His estimate was as follows: Two roots extracted, \$1.00; one cement filling, 75 cents; one gold crown, \$5.00. No reduction in price, and no credit.

IMPRESSIONS OF AMERICAN DENTISTS

BY OLGA NETHERSOLE

THE dentist should be, professionally, "to the manner born." To him we hasten for consolation, comfort and restoration. And to him



OLGA NETHERSOLE

we, as women, confide many little infirmities and frailties, that we would reluctantly disclose to our lawyer and hesitate about revealing to our physician, who, the old adage tells us, are the two men to whom we must always tell the truth. Happily, my professional demands upon dentists have been rare, as Dame Nature generously endowed me with an excellent set of teeth, that have troubled me but few times in my life. I recall, however, visits to dentists in London, in Paris and in

New York City. The London dentist is a mechanic, the Paris dentist a physician, but the New York dentist is an artist. The first handles you like a part of a great machine that must be adjusted; and actuated by that theory he immediately proceeds in a like manner upon you; the second attacks (I use the word advisedly) his patient with the abandon of a professor who is entrusted to perform a surgical operation where an anesthetic, force, heroic treatment, and a strait-jacket are employed with efficacy, if not discretion. But the New York dentist has the "sang froid" of one to whom you have entrusted a most delicate charge, and who feels that the confidence and responsibility thus reposed is a question of personal integrity and not the mere matter of a commercial transaction. I distinctly recall the confidence my New York dentist instilled into me by his cheery, "good afternoon." There was a wholesome sincerity in his welcome that instantly allayed any anticipated apprehension I had of suffering or discomfiture; his personal appearance indicated rather an officer of a transatlantic liner than a dental surgeon. His spotless linen, clothes, collar and cuffs; his clean-shaven face; his gentlemanly demeanor, all denoted the man "to the manner born." His so-called operating-room was free from the exhibition of instruments of torture that recall the days of the Inquisition, or a visit to the Cluny Musée; the deftness and surety with which he made his "examination," the assurance of "nothing

much wrong," the dexterity with which he operated, the evidence of the latest sanitary appliances, and the positive whiteness of everything around you, all indicated the artist, and actually fascinated me, making my visit rather a pleasant surprise than a dreaded ordeal.

I think the successful dentist ought first to impress his patient with his cleanliness, I admire a clean man morally and physically; then his personality—a wonderful endowment is personality, and how few use it to its greatest advantage! The lawyer, the salesman, the undertaker, the physician, the player, all require personality, and the greater the personality the more successful the individual. Why become a dentist when you ought to be a blacksmith? and why be a blacksmith when you might have been a very successful salesman? But I am digressing. Then the dentist ought to keep in tune with every new appliance, every new method of alleviating pain or expediting operation, keeping in mind all the time that he is a benefactor of man, and not a mere necessity thrust upon the sea of life "to fill up a place that may be better supplied when (he has) made it empty."

We foreigners may be able to teach Americans many of the sciences and arts, but the honor of elevating dentistry to a scientific art belongs solely to America, a country in which I have made many friends, tightened many social ties, and which I have always found ready to welcome me with the latch-string outside.

SHORT ARTICLES WANTED

Modest prizes as stimulants

THE Business Building Department wants to help develop business habits among dentists and wants short articles on the details of the business side of practice. The first subject selected is:

"The Uses and Value of the Examination Chart."

Business judgment indicates the wisdom of using this chart for every patient. We want short articles on any phase of its use such as: the value to the dentist in planning work; the value as a record of permanency of operations; its value in case of disputes; the wisdom of having a complete bird's eye view of a mouth always available, etc., etc.

For each article accepted for publication, THE DENTAL DIGEST will send to the contributor a copy of *Lectures on General Anesthetics in Dentistry* by W. H. DeFord, M.D., A.M., D.D.S. This is a book which should be in the hands of every practising dentist.

BROTHER BILL'S LETTERS



Brother Bill is a dentist who has succeeded professionally and financially. He is interested in the financial uplift of his professional brethren and writes many letters to friends in the profession who seek his counsel.

(Brother Bill receives a letter from a senior dental student and answers it plainly)

MY DEAR DOCTOR: I am to graduate from ———— Dental College in June and must enter practice immediately. My funds are very limited. I have worked every vacation to earn money, and have boarded myself through college, waited table, done chores, etc., that I may have money to furnish my office. I must get some patronage immediately since I have no money to "wait" on.

I am much concerned as to how to get that patronage, and no one seems able to tell me. I have asked several professors, but if they know they don't care to say. None of my classmates know any more than I except one, who worked a vacation in an advertising office. He says it's easy enough, and that he will be out of debt and making money in six months. Of course he doesn't tell the faculty that.

Is it better to "chuck" the ethics and get the money? I've been taught so much ethics it seems like a sort of dental religion.

Can you help me?

MY DEAR YOUNG SIR: Your letter rolls back the years like a scroll and brings again to mind the days when my friends and I "boarded ourselves" and hoarded our scanty funds, that we might furnish the offices, just as you are doing now.

Those were happy days, seen from now, happier than we knew then. Plain fare and not too much of it, merry spirits that nothing could long subdue, bright hopes and undaunted, all conquering faith as to the future, gave life a swing and zest that later years sometimes miss.

I know just how you feel about that future. I couldn't wait either, because I didn't have any funds to wait on. But I did wait just the same and pinched and denied myself in a way I had not known was possible. I thought I had done well, but two of my chums beat me. One lived for two months on a pint of milk and a loaf of bread a day; and the other lived three months on one meal a day and Hor-

lick's malted milk samples. Since then he's been recommending Horlick's malted milk for everything from bald heads to corns. Says it's the bread of life and that he knows, but doesn't tell folks *how* he knows.

By "advertising dentist" I suppose you mean the one who depends on printer's ink to secure patients. You know we are all advertisers, whether we wish to be or not. Our personal appearance, our manner, our offices, our methods are all advertising us, favorably or otherwise, all the time.

The advertising dentist, as I understand you to mean him, is very much like other dentists in personal characteristics. Perhaps at this point I ought to rise up and say that if he is an advertiser, he is a rascal and his name is abhorrent in my ears. I'm not going to do that. There have been times in my own life when, as I stood face to face with almost actual poverty after years of ethical practice, I wished I'd gone in for advertising and was making money. Many a better man than I in the profession has admitted to me, usually in the privacy of his home or of his office after office hours, that he has felt the same way.

Now about the advertising dentist being a rascal. I was brought up in an ethical college and on ethical teachings. When I graduated my mind was torn between two forces. The college people taught me that The Code was to be my professional Bible. The dental salesman told me, when urged, that the advertising dentists were making five dollars for the ethical man's one. Perhaps neither was exactly right.

After I became sufficiently prosperous so that I no longer feared that I might be tempted to advertise, I examined quite a few advertising dentists and their offices. I'll have to whisper it under my breath, but exactly the same conditions prevail among them as do in ethical offices. On a certain street, in a city I know of, are several dental offices. The practitioners in some are not excelled by any living men in skill or faithfulness to the interests of their patients. A few of the others are so incompetent that no amount of faithfulness would avail anything. And at least one is so crooked that no amount of skill would make any difference. And all of them are as ethical as one could wish.

It's what's in a man's heart that makes the difference between the honest man and the crook. And up to date I haven't been able to see that being ethical makes a dentist either skilful or honest; or that advertising necessarily makes him either unskilful or dishonest. So much for the dentist himself.

Now let us come to the question of the advertising practice as com-

pared with the ethical practice. I think a money-making, ethical practice is much more desirable for the following reasons:

First. An advertising practice costs a great deal to conduct. If it is to be largely successful it must be situated in a large city, where rents are high. The mere advertising expense is heavy. Then there are assistants, since no advertising office with which I am familiar depends on the labors of one operator. There must also be one or more laboratory men. The reports of most of those engaged in this sort of practice indicate that the help question is full of trouble in many aspects. It is hard to get the right men and hard to keep them. They are expensive, and any idle seasons make big inroads on the annual profits. As nearly as I can tell, it takes about six or seven dollars out of every ten dollars received to run the practice.

Second. Very few advertising dentists with whom I am acquainted get large fees habitually. Some of them talk some patients into good fees, but they have many pieces of work which are done at low fees. Even when they get good fees, each piece of work has to be sold separately, often bartered for. The methods of securing good fees are very often such as I could not accept or approve.

Third. There is apparently no such relation of confidence between the patient and the advertising dentist as exists in the better conducted family practices. Personally I value this relation very highly. Many of my patients have been my friends for years. Whatever affects their welfare interests me. In some cases the children to the third generation are regular patrons of the office, and there are certain mouths which have had my personal attention from soon after the permanent teeth came, till the mother brought her little ones for the same care. I treasure such relations. If one of these people were to come in to-morrow and say, "Doctor, I've had ill fortune, I can no longer pay your fees," I'd tell them "You come right here when you want any dental work. I'd rather do your work for nothing than lose your face out of my circle. I'm getting too old to lose my friends for the sake of a few dollars." There may be advertising practice where such relations exist, but I don't know of any.

In very few advertising offices that I know of are the practitioners suited with the class of patients they get. Most of them advertise cheap prices and it brings the "rabble," the "bargain hunters," as some dentists call them. Some men have patience with this class. They will bargain and cajole and coax and trade; but I couldn't. It can't be a very satisfactory way to put in the day.

Then, too, my patients are educated. They take care of their own mouths. The repairs I make for old patients are few and small.

They want the best I can do. I never quote an old patient a price, or ask what I shall do. I've taught them better, and I do what I see fit and charge what it is worth. I'd rather have the intelligent class of patients than the mob.

There is more rot talked about advertising in dentistry than most any other subject you'll hear discussed. I don't know whether the men who write and talk it don't know any better or whether they merely want to befog the issue. But we'd all be better off if they'd give us some clear notions on the subject. They all harp on the one string; they say the dentist must blow about himself. "What else could he advertise, but himself or his equipment?" they say.

I had an interest in a store once, and we had a clever advertising man who knew how to sell goods through printer's ink. There are 60,000 possible buyers in this city. When he wanted to reach them he'd tell about what he had to sell. If he wanted to move some boys' suits, he wrote about the material, color, trimmings, values, etc., in clear, plain language. And he'd sell the goods. He didn't talk about the store or its owners or himself. He talked about the goods.

Now suppose a dentist adopted that plain, every-day department store style and put a card in the paper like this:

IF YOU WISH
YOUR CHILD
TO HAVE GOOD
PERMANENT TEETH
have the temporary teeth
properly cared for.
I'll be glad to tell
you why.

JOHN SMITH,
DENTIST,
100 River Street.

He wouldn't be advertising his own special skill or equipment or setting himself above his fellows or anything of that sort. And very likely Jones, who wants his child to have good permanent teeth, will

take his little one in, and if Smith is a good dentist, Jones will get more real dental education in thirty minutes than all the dental societies in America have given him in thirty years. And he will doubtless say, as I've heard many a one, "I wish some one had taught me that thirty years ago."

Still I advise you against advertising for two reasons:

First. You will pay too heavy a price for such success.

Second. If you're clever enough to conduct a successful advertising practice you can succeed without advertising.

You've got some eye-openers coming to you in the next few years about dentists in general. Personally you will find us clever fellows enough, and if you take us one at a time, you'll find very few bad qualities. But if you get far enough into the societies, you find that as soon as we are banded together we exhibit some funny traits. Outwardly we are the same as before, but under the quiet surface you'll find pullings and haulings, petty jealousies, pettier politics, and an enormous amount of self-esteem and pretense.

You'll be told by men whose fees are \$5.00 to \$10.00 an hour, and who do not make an appointment till they are assured of the fee, that you shouldn't think of the fee, etc. They'll tell you things that their own common sense ought to keep them from uttering. They'll come nearer disgusting you with the societies in which they shine than anything or anybody else.

But when you learn to sift these fellows out and avoid them, you'll find a lot of as fine, sensible, ambitious fellows as I know of anywhere. From them you will gather new help and knowledge to meet every need and your life will be fuller and broader and richer than it could be without their association.

These are the fellows you can't afford to give up, and you would give them up if you began advertising.

Second. You can win without advertising. As you must have money at once, go first of all to where you can get a moderate or even low-price class of work to do. Select rooms where they can be bright and cheery. Furnish them modestly, and keep them clean—so clean they shine. No matter how many tenants use the stairs, you keep them clean. If you have only one reception-room chair (that's all I had to begin with) keep it spotless. Keep yourself clean. Keep on a clean, white coat during office hours. Wash your hands where the patient can see or hear, even if it's in a pail in the laboratory and you have to rock the pail to make the water splash. I'd rather start with an old chair, a tin cuspidor and a \$1.34 rocker in the reception-room and have all shining clean than a \$1,500.00 outfit that was dirty.

Get about among the people you want to work for. Don't sit and study books and wait for them to come. Go out and study them and let them study you. Get acquainted. Be one of them. Don't "talk shop," but if they start it, don't fail to give them some good information. Show that you know your business.

Humor the ladies and children. You need their money.

Do your absolute best with every piece of work. Don't take a piece of work at too low a figure if you can help it, but having taken it, do your best even if you lose money. You'll get it all back and more with it. Be perfectly square and upright with all. And keep yourself morally clean. It pays better in the end.

By and by you'll have money enough to move to a better location if you desire. By that time you'll know how to get business anywhere. And you'll still be entitled to associate with these professional brothers whom you will then esteem as highly as I do now. And that's better in the end.

Remember this: cleanliness, courtesy and fair dealing will carry you to success with very ordinary dental skill. But the greatest dental skill will fall far short of success without these other plain, common, easily acquired habits.

Don't advertise.

You can do better.

Yours with interest,

Bill

(Brother Bill recently received a letter from a dentist's wife asking what wives could do to help their husbands. His reply will probably be published in the March issue.)


HOW ONE DENTIST IMPROVED HIS PRACTICE

"The last two years my business is better, due possibly to the fact that I have made good—and lastly to the fact that I have entirely ignored my competitors in the matter of prices and have struck out alone.

"I read your magazine with pleasure, and this departure to make financial successes of dentists is worthy of commendation.

"W. E. GREEN,

"Kirkville, Mo."



DIGESTS

SOME PRACTICAL POINTS IN OPERATIVE
AND PROSTHETIC DENTISTRY*

BY DR. FRANK R. HOUSTON, GREEN BAY, WIS.

. . . It used to bother me to understand why, under seemingly the same conditions, that I was able to burnish a pellet of gold to a portion of the filling, at one time, and at another time absolutely fail. I learned that it is simply a question of blued instruments or nice new nickeled ones; the nickeled finish being a positive bar to success in this procedure, and it also being necessary, from time to time, to reestablish this blued finish on the burnisher by simply heating in Bunsen flame until the burnishing surfaces have lost the bright polished appearance and are again blue. . . .

To prevent the necessity of replacing anterior gold fillings that have been chewed out in some unknown manner, carefully note all possible excursive movements of the lower teeth and their possible bearing against a large contour.

Remember that, in this nervous age, many people grind their teeth in sleep, and, apparently, the lower teeth seek out and grind away at this new and strange gold surface until it is battered out of shape and pulled away from margins and finally completely lost. You get the blame.

Of course, the only remedy is to grind the lower teeth and test them in every possible excursive movement. . . .

When the serrations on a small plugger are worn smooth and it is practically useless, you can create a practical makeshift by taking off a bite of the extreme end with a good pair of pliers and then using a disk to trim to better shape and remove all sharp concerns from the fractured end. The new point will be found more perfectly serrated than the original. . . .

In amalgam work I have nothing to offer that I think worthy of your time, except to affirm my belief in the unvarying use of the matrix in all proximal cavities where the two surfaces—occlusal and proximal—are involved, and my further belief that a decent, serv-

* Read before the Fox River Valley Dental Society, March 9, 1909.

iceable and comfortable filling cannot be inserted without the matrix. . . .

Those of you who have not used the Steele repair outfit and system are overlooking a practical help in a dental practice. It only consists of two or three small-headed screws that are accurately mounted lengthwise on the smoothed and flattened backing, and which screws engage in the slot of a suitable Steele facing by the aid of cement.

This method can be used when the thinness of backing would preclude the use of the Bryant or some of the other methods of replacement and it is probably the quickest of all the methods and, in my judgment, the most enduring. It, however, is a reasonable deduction that, unless the conditions are corrected, the faulty occlusion that caused the original facing to be broken out, will be found on duty to crowd out the replaced one. . . .

When an inverted cone bur of size not larger than No. 4 has outlived its usefulness and is beyond recutting, taking a carborundum and cutting it down to a wedge point on opposite sides will produce a serviceable and rapid cutting fissure bur—for a little while.—*The Dental Review*.

OBSTINATE PULPITIS

BY DR. R. L. SPENCER, BENNETTSVILLE, S. C.

It is not the purpose of this paper to discuss pulpitis in general, but to call attention to those difficult cases which are occasionally presented to the general practitioner of dentistry and which cause him great annoyance. From a practical point of view, it matters not with what disease an exposed pulp may be affected, provided it will yield to the ordinary means of treatment, viz., arsenic devitalization or pressure anesthesia; but when the practitioner is brought face to face with an exposed pulp which refuses to be killed by arsenic or anesthetized by cocain, he feels that he is up against the "real thing," and it is here that a thorough knowledge of the various diseases of the dental pulp, and the ability to make a proper diagnosis, are of greatest importance.

All diseases of the dental pulp which do not yield readily to the ordinary means of treatment I have termed "Obstinate Pulpitis," and to this class of diseases I shall endeavor to call special attention.

An eminent authority on the subject of pathology has given us the following complete classification of diseases of the dental pulp:

I. Irritation of the Pulp.

II. Acute Pulpitis—Non-purulent: partial, total: Purulent: partial, total.

III. Chronic Pulpitis—Purulent: partial, total: Hyperplastic: partial, total.

IV. Gangrene of the Pulp—Moist, dry.

V. Degenerations of the Pulp—Eburnification, calcification, ossification, atrophy.

I shall follow this classification in a general way, calling attention to the more difficult classes, giving the methods of treatment that I have used in actual practice, and omitting those classes which do not properly come under the head of "Obstinate Pulpitis."

ACUTE NON-PURULENT PULPITIS

If this disease is seen in its incipency, it yields to the ordinary means of treatment, but in case the inflammation has become extensive the pulp will not absorb cocain, and an application of arsenic causes great pain to the patient. In such cases it is always preferable to reduce the inflammation by the use of anodynes and antiseptics, and then to apply either arsenic or cocain, whichever, in the opinion of the operator, is best suited to the case.

What has just been said in regard to extensive inflammation applies also to total acute pulpitis, which is differentiated from the partial by the color of the blood seen on opening the pulp chamber, it being in the one case venous, and in the other arterial.

ACUTE PURULENT PULPITIS

Bodecker says that "from a pathological point of view, this disease is divided under the heads of partial and total pulpitis; clinically, however, a differentiation is neither possible nor important." The pain in acute purulent pulpitis is pulsatory; and in those cases where the pulp is covered by a layer of softened dentine or other substance, the tooth is extremely sensitive to heat, but the pain is relieved upon the application of cold. The pain produced by the heat is due to the expansion of gases accompanying the pus in the pulp chamber. As soon as the pulp chamber is opened the gases escape and the pain ceases. The cavity of such a tooth should not, therefore, be sealed again until the entire pulp is removed, thus precluding the use of arsenic. Removal of the pulp can be satisfactorily accomplished by

what is known as the "Instillation Method," provided a small quantity of carbolic acid is added to the cocain solution.

PARTIAL HYPERPLASTIC PULPITIS

This is usually found in molar teeth which are largely decayed in their entire grinding surfaces. In a case of this kind the pulp presents a lobulated or cauliflower appearance on its surface, and has grown out of the pulp-chamber, sometimes entirely filling the cavity of the tooth. The hyperplastic portion is connected with the unchanged pulp within the pulp-chamber, or root canals, by means of a constricted stem or pedicle. In a tooth thus affected no pain exists beyond a sensation of uneasiness. A probe can be introduced into the cavity for a short distance without producing pain, but it will usually cause a profuse hemorrhage. The hyperplastic portion should be cauterized with carbolic acid and then quickly cut off with a sharp instrument. The remaining portion of the pulp can be easily extirpated with cocain and carbolic acid.

TOTAL HYPERPLASTIC PULPITIS

This is one of the most difficult diseases that the dentist is called on to treat. It usually occurs in pulps largely exposed, yet it sometimes occurs in pulps still covered by softened dentin. Severe pain is seldom observed except when acute inflammation is produced by constitutional derangement, or by irritants coming in contact with the exposed pulp; and when such is the case, applications of carbolic acid, cocain, aconite, arsenic, etc., fail to give relief. Every attempt at destroying the pulp by means of arsenic results in a painful paroxysm, and a failure to accomplish devitalization. It is said that the pulp can be removed by the use of escharotics. I, however, have seen only a few cases of this disease, and in every instance the patient forced me to do the extracting act.

MOIST GANGRENE

Invariably this affection is the outcome of acute pulpitis, and is easily recognized by its peculiar odor. The treatment given for acute purulent pulpitis applies to this disease also. However, in this connection, it might be well to state that great care should be used to maintain thorough antiseptics at all times during the treatment.

DEGENERATION OF THE PULP

Under this head I desire to call attention to what is commonly known as "pulp-stone." These formations of calcareous nodules are

the result of slow irritation and not of inflammation, although they often cause acute pulpitis. The symptoms of this disease are somewhat similar to those of total hyperplasia; with the exception, however, that the tooth can be devitalized by a persistent use of arsenic. In several cases of pulp-stones I have attempted pressure anesthesia, but have failed in every instance.

The method which has proved most satisfactory to me and which I have adopted in my practice is briefly as follows: Having applied arsenic to the exposure, I seal the cavity and allow it to remain from four to six days. This partially devitalizes the pulp in the coronal part of the tooth. At the end of this period I follow the arsenic with an application of fifty per cent. sulphuric acid, which I leave sealed in the cavity from twenty-four to forty-eight hours, in which time the acid will have so loosened the pulp-stone by absorption that it can readily be removed with an excavator. Even after thus removing the pulp-stone, the portion of the pulp remaining in the root-canals is often alive and a reapplication of arsenic will be necessary for its complete devitalization. The course of treatment outlined will be amply sufficient in the vast majority of cases, but there will occasionally occur instances where more extended and repeated applications will be necessary. Only last January I had a case in which I was compelled to apply arsenic three times, and sulphuric twice, before I was able to remove the pulp completely.—*Dental Summary.*

ORAL PROPHYLAXIS

BY A. F. JAMES, D.D.S., CHICAGO

DENTISTRY, as it is practised to-day by the modern dentist, is calling forth so many forms of knowledge and skill, that we are beginning to wonder if it will be possible for each individual dentist to perfect himself for the high requirements of each branch of the work so that he can give to the public all that can be accomplished.

In all branches of the healing science the trend is toward preventive measures, and dentistry is to the foreground in this work. Prophylaxis is one of the many waves that periodically sweep over the profession, and at present is receiving a considerable amount of attention.

While on a camping trip in the Teton Mountains last summer, one thought which came to me while viewing this grand range of mountains, was that the only thing that is really beautiful that has not been aided

or added to by the hand of man is the mountains or a natural landscape; all other things show the work of human hands—marble, diamonds, even our most beautiful flowers and trees are nothing, or do not show their greatest beauty until they are hewn into shape or cultivated by the hand of man. Our finest live stock, the most perfect animals, are the result of man's master mind and care.

In our past work as a profession we have accomplished much, but our attention has been largely toward the mechanical, or restoring that which has been affected by the process of decay or disease, but little has been done toward preventive measures and practically nothing toward the beautifying or care of the natural, comparatively healthy teeth.

Did you ever stop to think? Have you ever realized how wholesome and beautiful are perfect teeth?

In the past our work has been to add a patch here and there—in other words, to mend or restore broken down teeth.

Prophylaxis, if it means anything, means prevention of the necessity for adding these patches; it will make the teeth immune from decay. This is no idle theory, but a thing that has been proven so many times that I know it is true.

Your experience tells you that a perfectly polished, clean tooth is not often affected by caries. Why is it not equally true where there are a number of perfectly polished teeth? Gentlemen, the theory can be proven true in actual practice. The question is the thoroughness of the method and how it can be adapted to every practice.

One of our members said to me a short time ago, "I believe it is a good thing all right, but I haven't the time; I am too busy; if I could have an assistant, a young lady graduate or some one that I could turn this work over to in my office, I would take it up, but as it is I cannot give up the time to it."

Now, this is the question as it will resolve itself to many of you, but you all have time to keep in the procession with many other fads and fancies; why not work up enthusiasm on prophylaxis? Take a few cases; some beautiful young girl, with teeth that are only beginning to show signs of coming caries, and demonstrate to your own satisfaction the possibilities of prophylaxis in this particular mouth for a few years, and by and by you will become an enthusiast and you can tell your patients that you can do them a great service by preventing their teeth from decay, and will know that you can deliver the goods just the same as if you had contracted to place a filling, and you will be justified in asking a fee just in proportion, as for other service.

Some will say, after all this is only cleaning teeth, nothing new. Call it that if you choose. I have been called the manicure dentist, but

I have known all the time that I can show results, and that is what we are after, aside from the fact that we all have to live and pay bills; and when you become properly enthused you will talk just as hard to show the patients why you wish to raise the contract for cleaning teeth as you often do to raise the price of a crown or your fee for a plate.

To save further labor and to give you a detail, I am going to quote in its entirety a very good short paper on this subject (I know it is good, for I wrote it), read before the Chicago Odontographic Society in September.

The question, "How to treat superficial dental caries?" can be answered in one word—prophylaxis.

The thoroughness of prophylaxis treatment can vary so greatly that what one might call prophylaxis another would not consider as such.

So I shall describe briefly the treatment I have followed which has controlled these cases in my practice.

Where the caries extends through the enamel and very near the gingival margin, I cut away the gingival margin freely, extending it mesio-distally past the angles, rounding the remaining margin of the cavity, forming as nearly as possible a new enamel margin, then planing smooth the neck of the tooth and surface which has been affected by caries, then touching up all surfaces with round Scotch stones in the engine, following this with polishing wheels and pumice, finishing with wood points in porte-polisher for surfaces that cannot be touched with wheels.

The case just described might be considered as more than superficial caries, but I have followed this method successfully without recurrence of decay in extreme cases, and have not inserted a dozen cervical margin fillings in eight years' time.

Some will, no doubt, ask the question, what do you do about the sensitiveness of the exposed dentine? My answer is, prophylaxis.

In cases where the caries has not extended through the enamel, but has only etched or roughened the gingival margin or caused the white chalky lines we so often see, I plane all surfaces smooth, remove all calcareous deposits from the necks of the teeth and follow with the now celebrated prophylaxis treatment, which I may say is preventive dentistry, and should be called a Godsend to humanity.

The question was raised and caution thrown out by one of our members during the discussion of a paper on prophylaxis last winter regarding the danger of injuring the dental ligament in the use of instruments, and this extreme polishing of the necks of teeth in the prophylaxis treatment.

The question seemed a pertinent one, and well worth heeding, and I have given particular attention to this danger to see if damage were

really done to these tissues, and I can say that I have not found it to be true in any case, but that the tissues improve, they become firm and even hardened under this treatment, and, therefore, from my clinical experience, the polishing cannot be too extreme or thoroughly followed out; at least, one would have more physical endurance than I possess in order to do damage in this way.

(The following discussion of Dr. James' paper was read by Dr. Lester Bryant, Chicago, and is appended to the paper.)

It affords me great pleasure to be called upon to discuss this paper, as it is to me and to any dentist who is working along these lines such an important subject.

There is very little that I can say in discussing this paper, as I am so heartily in accord with everything in it. Consequently, I shall confine my remarks to points that have not been made in the paper. The essayist has dwelt mainly on one phase of the subject, namely, the polishing out of cervical cavities.

The essayist says that prophylaxis is one of the waves that sweep over the profession, but I can tell you, gentlemen, that it will not take the road to obscurity with the obsolete methods.

Did you ever stop to think how much damage is being done with a tooth brush, and how few people know how to use one intelligently? If not, you will find it an interesting study. Few people brush the gums, but spend what little time they do spend scouring away at the labial and buccal surfaces of the teeth with a hard brush. The result is that they are wearing grooves in the enamel and doing more damage to the dental ligament than we could do with all the prophylactic treatment we may be called upon to perform.

It is my practice to give every patient a demonstration in the use of a tooth brush. This may not be a very beautiful sight to the patient, but it is expressive, none the less.

I have found that since I have been working and thinking along prophylactic lines, I have changed my ideas and methods considerably. For instance, when I am planning how I am going to construct a piece of bridge-work, one of the first requisites is the subsequent prophylaxis for this piece of work. Can the patient keep it clean?

I find, too, that I am more particular to have my fillings well polished on the proximal surfaces. Also the fillings in the mouth that I have not inserted when I find overhanging margins.—*Dental Review*.

BONE PATHOLOGY AND TOOTH MOVEMENT*

BY EUGENE S. TALBOT, M.S., D.D.S., MD., LL.D., CHICAGO

To those dentists who are engaged in the operations of orthodontia, or who consider taking up this line of work, this article by Dr. Talbot should be valuable. It illustrates, in what seems to be a conclusive manner, the processes which are involved in the absorption of the alveolar process, in advance of moving teeth. The hint that when large areas of trabeculae, or fiber tissue, are destroyed, as shown in the center of illustration No. 8, especially after the alveolar process has obtained its growth, the bone cells are never reproduced, should be regarded as important in any case where a considerable movement of teeth is to be attempted in patients having attained their maturity.

Dr. Talbot refers, in one paragraph, to the method of enlarging the nasal cavity by separating the superior maxillary bones at the median line. This method is illustrated and described in detail in an article by Dr. George V. I. Brown of Milwaukee, a digest of which will appear in this magazine.—EDITOR.

UNTIL 1899 there was little or no knowledge in regard to the physiologic and pathologic changes in the alveolar process during tooth regulation. The question had frequently been asked, what changes take place when pressure is brought to bear on the teeth.

At that time I commenced a series of experiments on dogs, the results of which were published in the fourth edition of my work on "Irregularities of the Teeth and Their Treatment." Impressions of the dogs' mouths were taken in modeling compound, and caps of German silver were made for the cuspids. A jack-screw was soldered to the caps. The dogs were securely fastened into a V-shaped box with cotton bandages, chloroformed and the appliances cemented into place. Muzzles were then placed on the dogs' heads and their forefeet tied to prevent removal of the appliance. The muzzles and bandages were removed twice a day for the purpose of feeding. The screws were given one-fourth, one-half and one full turn every evening. The screws were 60 threads to the inch. The teeth of three dogs were moved 1-240, 1-120 and 1-60 of an inch daily, respectively, as suggested by Farrar.* At the end of three days the muzzles and bandages were removed, the dogs having become accustomed to the appliances. This process, in which the screw was turned one-fourth and one-half turn each day, was continued for seven days; the one in which the screw was turned one full turn was continued for two weeks. The object was to set up pathologic changes in the alveolar process similar to those produced in the human mouth.

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The dogs were killed at the end of the periods mentioned. The jaws were placed in 65 per cent. alcohol for twelve hours, in absolute alcohol for forty-eight hours, and then transferred to 5 per cent. nitric acid and water. The latter was changed every two days for a week, or until the tissues became soft enough to be easily penetrated by a pin. They were then placed in running water to remove acid, which took from twelve to twenty-four hours. The tissues were placed in 65 per

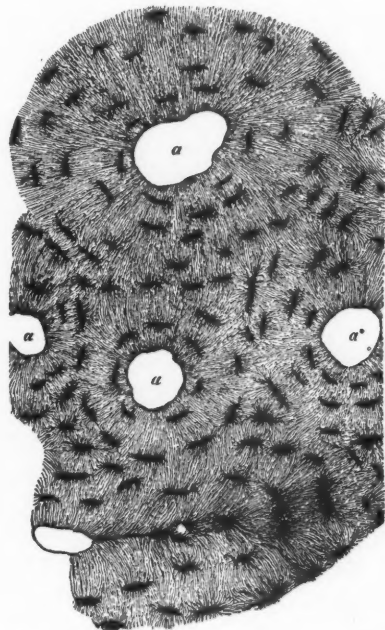


FIG. 2.—Showing Haversian canals a, a, a; dark spots surrounding Haversian canals lacunæ.

cent. alcohol six hours; in 95 per cent. alcohol six hours and absolute alcohol twenty-four hours. They were imbedded in thin celloidin twenty-four hours; in thick celloidin twenty-four hours; then mounted on blocks of wood and hardened in 80 per cent. alcohol from six to twenty-four hours. The specimens were cut and stained in hematoxylin-eosin.

The Haversian canals are large round spaces (Fig. 2), containing a single artery and vein. The fine hair-like spaces running from these large spaces are the canaliculi. The dark spots around each Haversian canal are the lacunæ. The canaliculi run from one lacuna to another into a Haversian canal, or they anastomose with each other.

The rings of bone about each Haversian canal are called lamellæ. The lacunæ seem to be about uniformly distributed throughout the bone.

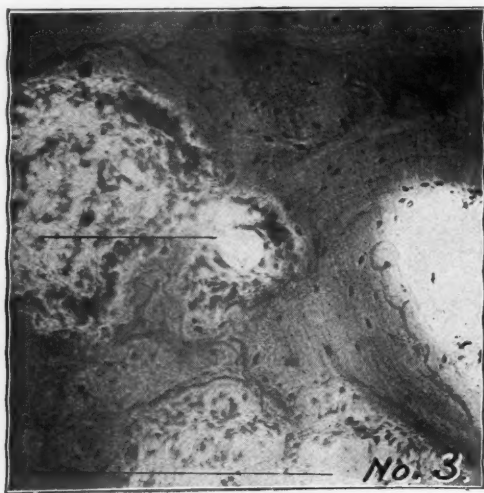


FIG. 3.—Halisteresis, or absorption of alveolar process, taking place at four Haversian canals.

The spaces between the lacunæ and canaliculi are filled with lime salts. When pressure is applied to a tooth, irritation and inflammation

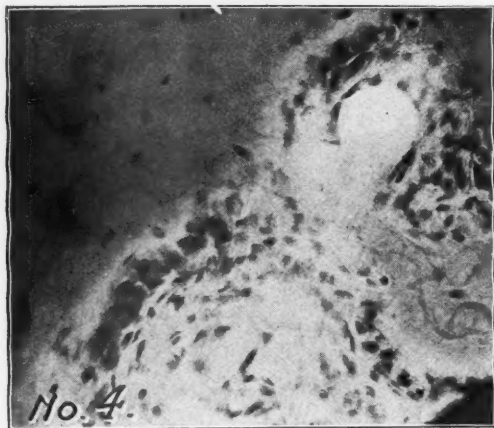


FIG. 4.—Two Haversian canals with bone destroyed between them.

is set up in and around the arteries. The larger arteries running through the Haversian canals are first involved. An inflammatory

process is set up around the margin of the Haversian canals and absorption takes place. Fig. 3 shows the absorption of the alveolar process taking place at four different points or Haversian canals. The process of absorption is called halisteresis, meaning melting away of bone substance. The inflammation thus set up produces rapid absorption. Each of these four areas enlarge until they unite, producing larger ones. The lime salts are thus destroyed, leaving the fibrous tissue or trabeculae intact. A considerable quantity of bone may be observed remaining in this illustration. Fig. 4 shows two Haversian canals with the bone entirely destroyed between them, while Fig. 5



FIG. 5.—Large area of absorption, with destruction of fibrous tissue, and an artery, once a Haversian canal; outside of the absorption area, three Haversian canals with inflammatory process just beginning.

illustrates a large area of absorption with destruction of the fibrous tissue. Around the border is seen a small amount of inflamed fibrous tissue; an artery, once a Haversian canal, is also seen. Outside of this large area are also seen three Haversian canals with the inflammatory process just beginning.

Fig. 6 shows four centers of absorption at Haversian canals. The dark lines running in all directions through the picture are the vessels of von Ebner, through which Volkmann's canal absorption takes place. A beautiful illustration of this is the canal running from one large area of absorption to the other. Fig. 7 shows the third form of bone absorption, lacunae or osteoclast absorption. Here a large area

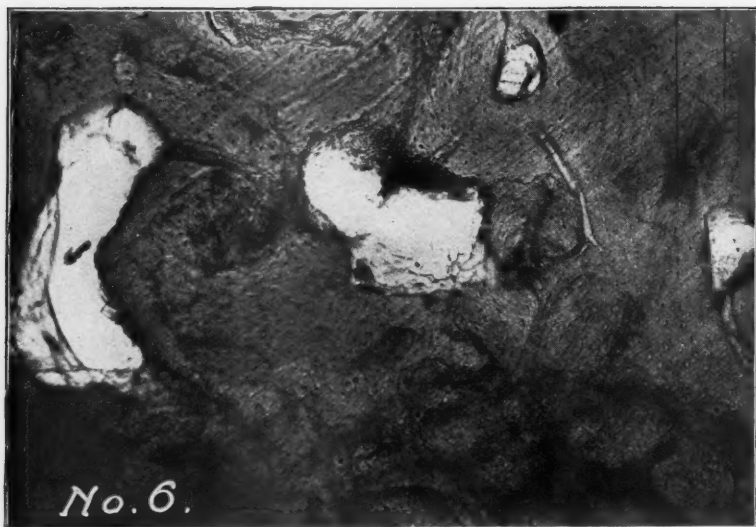


FIG. 6.—Four centers of absorption at Haversian canals; vessels of von Ebner running in all directions.



FIG. 7—Lacunae or osteoclast absorption.

of bone is destroyed by these large cells. Fig. 8 is a low-power view, showing the destruction of the alveolar process due to pressure and absorption between the roots of the two teeth. Very little of the bone remains. When large areas of trabeculae or fibrous tissue are destroyed, as shown in the center of this illustration, under certain conditions of interstitial gingivitis, especially after the alveolar process has obtained its growth, the bone cells are never reproduced.



FIG. 8.—Destruction of alveolar process due to pressure and absorption between the roots of two teeth (low power).

Enlargement of the nasal cavity may readily be accomplished by spreading the dental arch by opening the suture at the median line provided ossification has not taken place. Arrest of development of the face, nose, jaws and teeth is due to an unstable nervous system or there may be excess in development, including ridges along the suture. In other words, the suture may ossify at two years; it may remain ununited as late as the thirty-sixth year, or, as sometimes occurs with the suture of the cranium, it may never close.—*Journal of the American Medical Association*.

“He who helps a child helps humanity with a distinctness, with an immediateness, which no other help, given to human creatures in any other stage of their human life, can possibly give again.”—PHILLIPS BROOKS.



BOOK REVIEWS

A HISTORY OF DENTISTRY. From the Most Ancient Times until the End of the Eighteenth Century. By DR. VINCENZO GUERINI, Cav. Uff. Surgeon-Dentist, Naples, Italy, Dentist to the Royal House, Doctor of Dental Surgery *ad honorem* of the Chicago College of Dental Surgery, etc., etc. Large octavo, 355 pages, with 104 engravings and 20 full-page plates. *De luxe*, cloth, \$6.00 *net*. Lea & Febiger, Publishers, Philadelphia and New York, 1909.

A comprehensive and authoritative history of Dentistry has never been published for enlightenment of the profession as to methods of practice prevailing in ancient days and development of the art through succeeding ages to the scientific basis of to-day.

That such a history is now available is due to the suggestions offered at the Eleventh International Congress of Medicine when Dr. Vincenzo Guerini of Naples, Italy, was authorized to continue his exhaustive researches and study of the subject to which he had already devoted much of his time, and write a complete history of dentistry.

His first volume on the subject treats in Chapters 1 to 8 of the remotest origin of Dentistry, tracing its practice and development among the Egyptians, Hebrews, Chinese, Greeks, Etruscans, Romans and Arabians. The ninth to twelfth chapters are devoted to interesting and entertaining data pertaining to the art in the thirteenth to the eighteenth centuries, up to the period when the invention of mineral or porcelain teeth made possible the evolutions to prosthetic dentistry of to-day.

The ease of prescribing for a case of toothache in ancient practice is illustrated in complicated formula for a medicated powder which was to be snuffed up into the left nostril of the sufferer if a man; into the *right* nostril in case the victim were a woman.

The gradual evolving from this form of practice to scientific basis of modern times is most interestingly told in the pages of this work, which should occupy a place in the library of every dentist.

This history was translated and is published under the auspices of The National Dental Association of the United States.

DENTAL MATERIA AND THERAPEUTICS. A Text Book for Students and Practitioners. By HERMANN PRINZ, M.D., D.D.S., Professor of Materia Medica, Therapeutics and Pathology, Washington University Dental School, St. Louis; Chairman of the Committee of Revision of the United States Pharmacopeia, Section of Stomatology, American Medical Association. Illustrated. The C. V. Mosby Medical Book and Publishing Co., 1909.

If the trend of dental education is to be toward the realm of the physician, such a work as this deserves a prominent place in every dental library. The introduction deals with the aim of Therapeutics, the Action of Drugs, Classification of Dental Remedies, Prescription Writing and others. Here is given much information of value to student and practitioner.

Part II treats of Pharmaco-Therapeutics. Part IV treats very fully of Anesthesia, and, as might have been expected from this author, is very complete.

The clear style and intelligent construction of the book will make for it many friends and give it a wide field of usefulness.

EDITORIAL

A VIEW OF OUR FINANCIAL STATUS

DR. BRUSH contributes to this number an article entitled, "The Reasons Why," in which he outlines the motives which move him to work for the good of others.

There are two sides to a man's activities each of which, *in its proper place*, demands his attention. The first is that which has to do with establishing himself economically—that is with getting a living in the present and providing a competence for the future.

When the practice or business is in such shape that its exercise for a reasonable number of hours provides a living, and the competence is in process of accumulation, the other side of his activities claims his attention, with the force of a debt that should be paid.

This other side is the public side—the service for others. It embraces all those forms of activity by which he may repay in part that great debt which he owes to his kind. For we are debtors not only for most that we have but for the very privilege of being what we are. Every one of us practises dentistry with some success because our professional forefathers struggled and studied and *gave freely* of the re-

sults of those struggles to their fellows and to us. And our success in practice is largely determined by the extent to which we assimilate the work of others. Dr. Black spends years on the study of cavity preparation and gives the results in an article or book. And immediately a thousand dentists become his debtors because they take freely of the fruits of his labors and apply them to their practices.

Thus in every line we become debtors to those who seek out information. The bacteriologist teaches us the sources of disease, the orthodontist teaches us the value of proper occlusion, the prosthetist teaches us prosthetic work. It is probable that nine-tenths of our total knowledge is contributed by those whom we cannot pay in the usual sense of that word. But while we cannot pay individual dentists for knowledge, our debt calls for payment to *all* dentists, by doing for the profession that form of public work which nature has made it easy or convenient to do. For some dentists that means giving clinics; for others, writing papers; for others, seeking out new methods or facts; and for some the passing along of inspiration and help to individuals. But each of us should pay. For if we fail we become narrower and smaller than we should be if we paid. It is better to pay than to shirk.

Sometimes circumstances give to one a clear vision of the needs in a field which is seen only in part by many. And with that vision may come the conviction that his call to labor lies there, and that when the need is seen of all, many will labor to remedy it.

Circumstances have given to the editor of this magazine a knowledge of the financial status of dentists as a whole, which is known to but few other members of the profession: they gave also the vision of what our financial status might be and the means by which we may rise from our present plane to where we should be.

What are the facts regarding our financial status?

First. That the average dentist begins practice at the age of twenty-five, without money and perhaps in debt.

Second. That he practises about thirty years and begins to lose in physical stamina at fifty-five years of age.

Third. That so far as can be told, the average practice* is about \$2,600.00 per annum.

Fourth. That it costs about \$1,200.00 per annum to conduct this average practice, leaving about \$1,400.00 annually as net earnings.

Fifth. That from this sum must be paid all personal and family expenses and something laid aside for old age.

* Eliminating notably successful practices of from \$8,000.00 annually up, since these are, as regards the total number, very few.

Sixth. That accumulation now and provision for old age are practically impossible under such conditions and that some appalling results obtain as follows:

A. That 20 per cent. of the practising dentists of the United States,* at this writing, have proven themselves unworthy of business credit even in small sums. That means that out of every five dentists, one must be sold everything on a basis of cash with the order.† We will discuss this later.

B. That out of the remaining 80 per cent., more than half are "slow pay." That is, they do not pay their accounts at the end of thirty days. "Slow pay" accounts are carefully limited as to the amount of credit.

C. That probably less than 5 per cent. of the dentists maintain deposit purchasing accounts, with their dental depots. This is in face of the fact that as high as 39 per cent. may be obtained by deposit and wise use of \$100.00.

D. That practically 75 per cent. of the dental office furniture sold to *established practitioners* has to be sold on the instalment plan and fully two-thirds of the dentists who purchase in this way are at some time behind in payments. In other words, three of us out of four cannot buy \$150.00 worth of equipment unless we are given from eighteen months to two years in which to pay for it.

E. That, so far as can be learned, the average dentist accumulates not more than \$300.00 worth of available assets annually. The amount is probably much less than this.

F. Probably not five dentists in a hundred arrive at the age of fifty-five years with sufficient assets to carry them to the age of seventy.

WHAT ARE THE CAUSES OF THESE CONDITIONS?

First. Mainly that we have no recognized source of instruction in business methods. THE DENTAL DIGEST stands alone in this field at present, and even it is scoffed at by some and criticized by others, who themselves do nothing to help.

Our colleges teach methods and ethics. Our societies do likewise. And wealthy in these but poor in money-getting knowledge, we go forth to practise, ignorant of the things we *must* know before we can make money.

WHAT ARE THE PROSPECTS?

Excellent.

Letters from dentists in all sections of the country state experiences

* There are probably about 32,000 dentists in active practice.

† If only ethical practitioners are considered, the proportion is much larger.

that bring profit to them and pleasure and hope to us. They tell how they have begun applying business methods to their practices and have made from \$200.00 to \$1,400.00 more in the last six months than ever before. And when a man's eyes are opened by such experience in money making they are unlikely to close again. Just one year ago THE DENTAL DIGEST began its Business Building Department. Just a year ago Brother Bill made his first bow as a humorously critical friend. To-day he is known and read from ocean to ocean and from the lakes to the gulf. If you saw his mail, you'd know how much good he has done.

WHERE DO YOU STAND?

Every dentist to whom this magazine goes stands either as one who needs business help or as one who, having no need to receive, *is in debt to the profession to give*. Neither can afford to scoff.

If your practice is not producing a living and a competence, you need to apply to it the business principles which underlie the success of every commercial undertaking. If your practice is producing sufficient revenue, you are still debtor to the whole profession to help those who need such help. However wise or skilful or successful you may be, you are still debtor to a multitude of workers in every field for that success, indeed *for the chance to succeed*. Anatomists, metallurgists, physiologists, chemists, bacteriologists, electricians and others have served you freely and well. Now comes your opportunity to serve.

HOW YOU CAN HELP

First, by giving information. You know diagnosis must precede treatment. We want to make an accurate diagnosis of our business condition. In THE DENTAL DIGEST for November we asked the two questions that follow, and thirty dentists out of nine thousand answered. To those men, hearty thanks. Maybe you didn't see the questions. Maybe you forgot to answer. But we need this information. You may safely trust it in our hands as confidential. So here are the questions with one more added.

1. What has been the amount of your practice each year for, say two years past?
2. What did it cost you to conduct it?
3. How much do you average to save annually, over *all* expenditures?

Just one more point. When you realize what THE DENTAL DIGEST is trying to do, help it along. Get your dental friends to sub-

scribe. And by and by we'll get such a weight of sensible business sentiment as will change for the better many conditions that prevail.

SOCIETY AND OTHER NOTES

Officers of Societies are invited to make announcements here of meetings and other events of interest.

INDIANA.

The next meeting of the Indiana State Board of Dental Examiners will be held in the State House, Indianapolis, January 10 to 14, 1910. All applicants for registration in this state will be examined at this time. For full information address, F. R. HENSHAW, *Secretary*, 507 Pythian Building, Indianapolis.

IOWA.

The Iowa State Board will hold a meeting for the examination of candidates for license to practise dentistry in Iowa beginning January 10, 1910, at 9 A.M., in Des Moines.

For blanks and other information write the secretary, E. D. BROWER, Le Mars, Iowa.

MINNESOTA.

The Annual Clinic of The G. V. Black Dental Club will be held in the Old Capitol Building in St. Paul on February 24 and 25, 1910.

At this writing there is every indication that this will be the largest attended and most interesting of all the clinics which the members have held.

Such well known men as Drs. Black, Johnson, Friesell, Chappel, Barnes and Woodbury will take part in the literary program.

The table clinics will be of unusual interest.

The profession generally is invited to attend.

For further information apply to R. B. WILSON, *Secretary*, Amer. Nat. Bank Bldg., St. Paul, Minn.

SOUTH DAKOTA.

The South Dakota State Board of Dental Examiners will hold its next regular meeting at Sioux Falls, S. D., January 11, 1910, at 1.30 P.M., and continue three days. All candidates are required to take both practical and theoretical examinations.—G. W. COLLINS, D.D.S., Vermilion, S. D.

TEXAS.

The Annual Meeting of the Texas State Dental Association will be held at Houston, Texas, May 10, 1910. On May 11, 12 and 13 the Association will meet conjointly with the Southern Branch of the National Dental Association at the same place.—J. G. FIFE, *Secretary*, Dallas, Texas.

WISCONSIN.

On January 18-19, 1910, the Alumni Association of the Dental Department, Marquette University, will hold their Fourth Annual Clinic and Manufacturers' and Dealers' Exhibit at the Milwaukee Auditorium—W. F. STRAUB, *Secretary and Treasurer*.

ILLINOIS.

Celebration in honor of Dr. G. V. Black.

The Chicago Odontographic Society have arranged for a great meeting, manufacturers' exhibit, clinic and banquet to be held on Friday and Saturday, January 28 and 29, 1910, and a cordial invitation is hereby extended to all ethical practitioners to be present on these occasions.

Exhibitors' Clinic—January 28, 1910, all day, at the Chicago College of Dental Surgery, corner Wood and Harrison Streets.

Meeting—January 28, 1910, at 8 P.M., in Handel Hall, 40 E. Randolph Street. Essayist, C. N. Johnson, M.A., L.D.S., D.D.S. Subject, "The Selection of Filling Material and Methods of Inserting, when Temporary Work Need not be Considered." The discussion will be opened by prominent men from all sections of the country.

Clinics—Saturday, January 29, 1910, all day, at the Chicago College of Dental Surgery, by operators of national reputation.

Banquet—As a fitting climax to a great meeting, we will all unite in a testimonial banquet to a great man, whom we all love to honor: Dr. G. V. Black. The banquet will be held in the Gold Room of the Congress Hotel on Saturday evening, January 29, 1910, at 7 o'clock.

Information regarding meeting or banquet will be furnished by any officer of the Society, or by addressing the Clinic Committee, H. N. Orr, A. F. James, J. E. Schaefer, C. M. Cahill, Geo. N. West, Chairman; 100 State Street, Chicago.

PATENTS

- 935295. Vulcanizer, H. D. Bultman, New York, N. Y.
- 935480. Barbers' chair, C. W. Fischer, Chicago, Ill.
- 935405. Adjustable bracket, W. E. Rhodes, Corry, Pa.
- 935416. Adjustable bracket, A. J. Schneider, Newark, N. J.
- 935419. Rack for dental and like tools, W. L. Smith, Pittsburg, Pa.
- 935420. Rack or tray for dental and like instruments, W. L. Smith, Pittsburg, Pa.
- 936131. Dental or surgical chair, C. Holtz, Gouldsboro, Pa.
- 936903. Artificial tooth, J. W. Ivory, Philadelphia, Pa.
- 936539. Dental apparatus, A. Jameson, Indianapolis, Ind.
- 936633. Dental press, F. O. Jaques, Jr., Cranston, R. I.
- 936732. Dental instrument, W. H. Manning, Malden, Mass.
- 936361. Artificial tooth, F. Rose, Liverpool, England.
- 937356. Apparatus for distilling mercury from gold amalgam, W. E. Bennett, London, England.
- 937683. Composition for treating teeth, R. Matweff, Tatar-Pazardjik, Bulgaria.
- 937343. Head-rest for barbers' chairs, R. S. Wallace, Forney, Texas.
- 937126. Rotary dental apparatus, M. Wentworth and W. J. Garbutt, Milwaukee, Wis.

Copies of above patents may be obtained for fifteen cents each, by addressing John A. Saul, Solicitor of Patents, Fendall Building, Washington, D. C.